ANNUAL MEETING IN LAWRENCE, MAY 2, 3, 4.

THE JOURNAL
of the
Kansas Medical Society

VOL. XXXIV TOPEKA, KANSAS, MARCH, 1933 No. 3

Published Monthly under direction of the Council. Annual Subscription, $2. Single Copy, 20c.
700 Kansas Avenue, Topeka, Kansas

Entered as second-class matter May 2, 1914, at the Postoffice at Topeka, Kansas, under the Act of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917. authorized on July 2, 1918.

CONTENTS

ORIGINAL ARTICLES

Undulant Fever With Report of Cases Occurring in Kansas—Earle G. Brown, M.D., Topeka 83
Injection of Varicose Veins With Chemical Action—Lewis W. Angle, M.D., Kansas City, Kansas 89
Birth Injuries in the Newly Born—James A. Wheeler, M.D., Newton 93
Cation Balance Theory of Hypertension—Louis K. Zimmer, M.D., Lawrence 96
Experimental Work on Dementia Praecox—Michael Gerundo, M.D., Topeka 100
Letters From a Kansas Doctor to His Son—John A. Dillon, M.D., Larned 106
UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC—Clinic of T. J. Sims, Jr., M.D. 102
TUBERCULOSIS ABSTRACTS 104

EDITORIAL

New Radio Series 109
Mottled Enamel 109
Principles and Policies of Medicine 111
Editorial Comment 112

MISCELLANEOUS

Proposed Legislation 114
The Laboratory—J. L. Lattimore, M.D., Topeka 117
Recent Medical Literature—William C. Menninger, M.D., Topeka 118
The Physician's Library 107
County Society News 120
Death Notices 121
Truth About Medicines 121
Kansas Medical Auxiliary 120

Lest we forget "The dextrin-maltose preparations possess certain advantages. When they are added to cow's milk mixtures, we have a combination of three forms of carbohydrates, lactose, dextrin and maltose, all having different reactions in the intestinal tract and different absorption rates. Because of the relatively slower conversion of dextrins to maltose and then to dextrose, fermentative processes are less likely to develop. Those preparations containing relatively more maltose are more laxative than those containing a higher percentage of dextrin (unless alkali salts such as potassium salts are added). It is common experience clinically that larger amounts of dextrin-maltose preparations may be fed as compared with the simple sugars. Obviously, when there is a lessened sugar tolerance such as occurs in many digestive disturbances, dextrin-maltose compounds may be used to advantage." (Queries and Minor Notes, J.A.M.A., 88:266)

Dextri-Maltose

No. 1 Maltose 51%. Dextrins 42%. NaCl 2%. H_2O 5%.
No. 2 Maltose 52%. Dextrins 43%. H_2O 5%.
No. 3 Maltose 51%. Dextrins 41%. KCO_2 3%. H_2O 5%.

the carbohydrate of choice

for thirty years

never advertised to the public

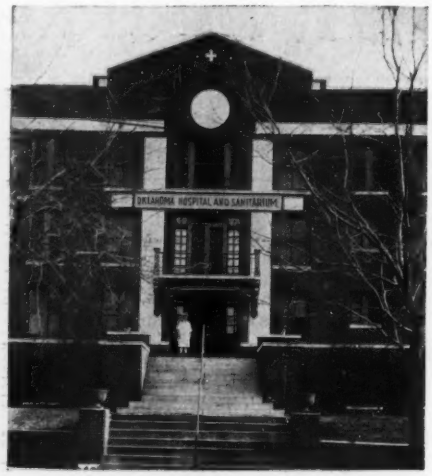
Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons
Mead Johnson & Company, Evansville, Ind., U.S.A.

KANSAS STATE LIBRARY
MAR 11 1933

THE OKLAHOMA HOSPITAL AND SANITARIUM

West Ninth and Jackson Streets

TULSA, OKLAHOMA



An ethical institution for those nervous or mentally ill.

PARESIS

Some form of induced Hyperpyrexia is universally recognized as essential for the treatment of paresis. Malarial inoculation is effective, and is always available with us. We also employ, in suitable cases, massive Diathermy as an alternative method of treatment.

Rates Strictly Reasonable

NED R. SMITH, M.D.,
Medical Director
703 Medical Arts Building

Daisy N. Neese, Superintendent **T. N. Nesse, Business Mgr.**

For information or rates, address the Sanitarium or the Medical Director

THE

Lattimore Laboratories

J. L. LATTIMORE, A.B., M.D., Director

ROUTINE ANALYSES, SEROLOGY,
BACTERIOLOGY, PATHOLOGY, PARASITOLOGY
BLOOD CHEMISTRY
COMMERCIAL CHEMISTRY

Solutions of Any Kind Made From Your Specifications.
Intravenous Solutions, Glucose, Mercurochrome, Etc.

Containers furnished upon request. Wire report if desired.

A. C. KEITH, Chemist-Toxicologist

Topeka, Kansas	El Dorado, Kansas	Sedalia, Mo.	McAlester, Okla.
J. L. Lattimore	J. C. McComas	R. C. Carrel	W. J. DELL

4 *factors safeguard the therapeutic efficacy of*

THE production of Neoarsphenamine Squibb is controlled to yield a product which not only provides an ample margin of safety, but assures a uniformly high and permanent therapeutic benefit to your patients. Four factors in the Squibb Control make Neoarsphenamine Squibb safe, uniform in strength, and assure high spirocheticidal activity.

1. It is carefully and skillfully manufactured with rigid physical and chemical control of all the various steps in the synthesis of the intermediate products.

2. Each lot is biologically tested in accordance with requirements of the National Institute of Health (formerly the U. S. Hygienic Laboratory).

3. After each lot is made, a part of it is set aside and periodically tested in the Squibb Control Laboratory to make certain that the product remains satisfactory.

4. Tests have shown Squibb Neoarsphenamine to have an unusually high trypanocidal activity.

Neoarsphenamine Squibb is the preferred product for office practice. It is marketed in ampuls of 0.15, 0.30, 0.45, 0.60, 0.75, and 0.90 Gm., and also in packages containing, in addition, a 10 cc. ampul of Sterile Double Distilled Water Squibb. For literature write to Professional Service Department, 3203 Squibb Building, New York.

E·R·SQUIBB & SONS, NEW YORK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

WALTER H. WEIDLING, M.D.
OBSTETRICS and GYNECOLOGY
700 Kansas Avenue — Topeka, Kansas

FRANK C. BOGGS, M.D., F.A.C.S.
Eye, Ear, Nose and Throat
Mills Building — Topeka, Kansas

E. S. EDGERTON, M.D.
Surgeon
Suite 910 Schweiter Bldg. — WICHITA, KANSAS

LESLIE LEVERICH, M.D., F.A.C.S.
Practice limited exclusively to Obstetrics
Normal and Operative
430 Brotherhood Bldg., — Kansas City, Kansas

J. G. MISSILDINE, M.D.
Urologist — Dermatologist
906 Brown Bldg.
Wichita, Kansas

J. A. H. WEBB, M.D.
X-RAY
310 Schweiter Bldg. — Wichita, Kansas

ARTHUR D. GRAY, M.D., F. A. C. S. — **ERNEST H. DECKER, M. D.**
Urology, Dermatology and Allied Diseases
Radium and x-Ray Therapy
SUITE 721-723 MILLS BLDG. — TOPEKA, KANSAS

W. F. BOWEN, M.D., F. A. C. S.
MILTON B. MILLER, M.D., F. A. C. S.
SURGEONS
212 Central Bldg., 700 Kansas Ave.
Telephone 6120 — Topeka, Kansas

OPIE W. SWOPE, M.D.
RADIOLOGIST
Superficial and Deep x-Ray Therapy
Radium Therapy x-Ray Diagnosis
713 First National Bank Bldg.
WICHITA, KANSAS

FRANK FONCANNON, M.D.
SURGEON
405-6 Citizens Bank Bldg. — Emporia, Kansas

H. E. MARCHBANKS, M.D., F.A.C.P.
Internal Medicine
Special Equipment: Electrocardiograph (Gen. Electric); Oxygen Tent (Warren E. Collins); Metabolors (McKesson; Sanborn)
902 North Broadway — Pittsburg, Kansas

T. E. HORNER, M.D.
Obstetrics
HOSPITAL FACILITIES 206-7 Simpson Bldg.
Atchison, Kansas

LERTON V. DAWSON, M.D., F.A.C.S.
SURGERY AND GYNECOLOGY
Clinic Building — Ottawa, Kansas

DRS. COLT and COLT
Physicians and Surgeons
Telephone 2596 — Manhattan, Kansas

LA VERNE B. SPAKE, M.D.
EYE, EAR, NOSE and THROAT
322 Brotherhood Bldg., — Kansas City, Kansas

W. M. MILLS, M.D.

SURGEON

Mills Building — Topeka, Kansas

G. W. JONES, A.M., M.D.

Diseases of the Stomach. Surgery and Gynecology

RADIUM USED AND FOR RENT
LAWRENCE HOSPITAL AND TRAINING SCHOOL

Phone 35 or 1745 — Lawrence, Kansas

RAYMOND G. HOUSE, M.D.

Practice limited to
DERMATOLOGY

405 Schweiter Bldg., — Wichita, Kansas

ALFRED O'DONNELL, M.D.

Surgeon

ELLSWORTH, KANSAS

E. A. REEVES, M.D.

OBSTETRICS and GYNECOLOGY
Hospital Facilities

322 Brotherhood Bldg., — Kansas City, Kansas

J. F. HASSIG, M.D.

SURGEON

804 Huron Bldg. — Kansas City, Kansas

THE JANE C. STORMONT HOSPITAL
TOPEKA, KANSAS

Training School for Nurses
General Hospital—75 Beds
Medical, Surgical and Obstetrical Cases Received.

W. J. EILERTS, M.D.

SURGEON

Suite 809 — Schweiter Bldg.
Wichita, Kansas

C. S. NEWMAN, M.D.

SURGEON

615 N. Broadway — Pittsburg, Kansas

X-Ray and Radium

LEWIS G. ALLEN, M.D.

Phone Drexel 2960 — Suite 704 Commercial National Bank Bldg., Kansas City, Kansas

GEO. E. COWLES, M.D.

OBSTETRICS and GYNECOLOGY

902 Brown Bldg. — Wichita, Kansas
Office Telephone 2-2404 — Residence Telephone 3-8097

NELSE F. OCKERBLAD, M.D., F.A.C.S.

Practice limited to Urology
Complete cystoscopic room and x-ray in office.
1530 Professional Building

Kansas City, Mo. — Tel. Harrison 3331

CLAUDE C. TUCKER, M.D.

Practice Limited to Diseases of Rectum and Colon

1003 Schweiter Bldg.
Phone Douglas 4-0361 — Wichita, Kansas

C. E. JOSS, M.D.

SURGEON

National Reserve Building — Topeka, Kansas

HARRY J. DAVIS, M.D.

Practice Limited To
OBSTETRICS and GYNECOLOGY

Mills Building — Topeka, Kansas

B. I. KREHBIEL, M.D.
PEDIATRICS
519 Mills Bldg. Topeka, Kansas

GEORGE H. ALLEN, M.D.
Eye, Ear, Nose and Throat
Mills Building Topeka, Kansas

L. F. BARNEY, M.D.
Surgeon
Suite 200 Brotherhood Block Kansas City, Kansas

C. C. NESSELRODE, M.D., F.A.C.S.
SURGEON
704 Commercial Building
Phone Drexel 2960 Kansas City, Kansas

THE TROWBRIDGE TRAINING SCHOOL
Established 1917
A HOME SCHOOL for NERVOUS and BACKWARD CHILDREN
The Best in the West
Beautiful Buildings and Spacious Grounds. Equipment Unexcelled. Experienced Teachers. Personal Supervision given each Pupil. Resident Physician. Enrollment Limited. Endorsed by Physicians and Educators. Pamphlet upon Request.
1850 Bryant Building E. HAYDN TROWBRIDGE, M.D. Kansas City, Mo.

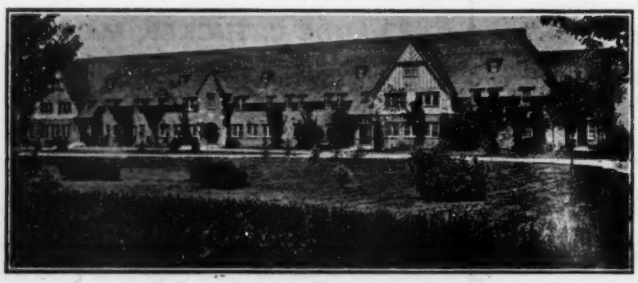
POSTGRADUATE COURSE
For Graduates in Medicine
Eye, Ear, Nose and Throat
A house doctor is appointed July 1st and January 1st

LABORATORY COURSE
For Nurses and Graduates of High School
CLASSES LIMITED TO SIX
X-Ray, Basal Metabolism, Electro-cardiography and Physical Therapy

150 clinical patients daily provides material for classes. Positions with attractive salaries in hospitals and with group doctors await qualified Technicians

For particulars regarding either course write
CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL, 231 West Washington Street, Chicago, Ill.

Founded 1896 by Dr. Hubert Work



WOODCROFT HOSPITAL, PUEBLO, COLO.

A modern, newly constructed sanitarium for the scientific care and treatment of those nervously and mentally ill, the senile and drug addicts.

CRUM EPLER, M.D.
Superintendent

ELI LILLY AND COMPANY

FOUNDED 1876

Makers of Medicinal Products

AMYTAL

ISO-AMYL ETHYL BARBITURIC ACID

For Sedation and Hypnosis

Amytal Tablets are useful in insomnia due to arterial hypertension, mental worry, psychosis, fatigue, narcotic addiction or withdrawal, alcoholism, nervousness, and in many other conditions where repose is needed. . . . Supplied through the drug trade in 1½-grain (0.1 Gm.) tablets, and in ¾-grain (0.05 Gm.) "half-strength" tablets in bottles of 40 and 500.

Prompt Attention Given Professional Inquiries

Principal Offices and Laboratories, Indianapolis, Indiana, U.S.A.

A Group of Distinguished Products

OF

THE LILLY LABORATORIES

For Effective Antisepsis

MERTHIOLATE—Solution, Tincture, Jelly (water-soluble)

For Preanesthetic Use

SODIUM AMYTAL PULVULES—(filled capsules) 3 grains

For Convulsions

AMPOULES SODIUM AMYTAL

For Diabetes Mellitus

ILETIN (INSULIN, LILLY)

Biologicals

Lilly's Antitoxins, Serums, and Vaccines

For Nasal Decongestion

EPHEDRINE—Inhalants, Compound and Plain; Ointment Compound; Jelly (water-soluble)

Prompt Attention Given Professional Inquiries

Principal Offices and Laboratories, Indianapolis, Indiana, U.S.A.

SEVEN YEARS' USE

has demonstrated the value of

THE SURGICAL SOLUTION

of

MERCUROCHROME H.W. & D.

in

PREOPERATIVE SKIN DISINFECTION

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.
It dries quickly.
The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied.
Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk package for hospitals.

Literature on request

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND

NUTRITIONAL THERAPY IN ORAL SURGERY

Knox Gelatine serves your patients dually before and after operation

Pre-operatively when Knox Gelatine is administered as a dietary supplement two or three times daily for a week, the patient is spared unnecessary loss of "life" blood. Kugelmass has shown that dietary protein accelerates blood clotting.

Post-operatively, Knox Gelatine takes the sting off foods. It may be used either alone or with other indicated foods

This is the Real Gelatine
A U. S. P. Food
Sold only by Grocers

On request, the Knox Gelatine Laboratories, 423 Knox Ave., Johnstown, N. Y., will send you diet suggestions for children and adults, outlined for post-operative feeding.

Prescribe

KNOX GELATINE

in Nutritional Therapy

Thank You Doctor

The baby is doing splendidly and Tom and I are so pleased.

When you first told me that Junior would have to have bottle feedings I thought I was due for a lot of trouble and work because I remembered what a time my sister had when her baby was on the bottle. She sent for a formula that was advertised to be recommended by many authorities, but something was wrong. She used to spend hours in her kitchen mixing this, that and the other thing. And in spite of all her trouble, her baby fretted and cried and didn't gain properly.

This S.M.A. you have prescribed for my baby is a new one to me. In fact, I have never seen it advertised. But, believe me, it works like a charm and it is *so* simple to prepare—no fuss or bother at all.

Junior reaches to take the bottle right out of my hands and drinks it all up. And he's the *best* child. Always happy when he's awake, and sleeps the whole night through.

And talk about a picture of health! I believe he would take first prize in any baby contest.

I'm going to bring him down to your office Wednesday as you suggested. That S.M.A. folder you gave me says even a breast fed baby should be under the supervision of a physician and I think myself that it's better to *keep* the baby well than to wait until trouble starts.

We certainly want to thank you for bringing our baby along so well, Doctor. It increases our confidence in you as our family physician. Tom has already "said it with dollars", but I wanted to thank you personally, too.

And I'm going to persuade Mrs. Brown,—that's my neighbor with the baby that's not gaining—to come along on Wednesday so you can prescribe the proper diet for *him* too.

Trial supply of S.M.A. Because S.M.A. has won favor un-***offered without charge*** der typical conditions we are quite willing that you should try it in your own practice and under your own control. To make this easy we offer you a generous trial supply without charge or obligation. Simply attach the coupon to your prescription blank or letterhead.

S.M.A. Corporation, 4614 Prospect Avenue, Cleveland, Ohio
Please send me:

☐ Trial supply of S.M.A. ☐ New S.M.A. prescription pad.

☐ Fourth revised edition of "Milk Allergy" Booklet, a resume of current literature on milk allergy with information concerning Smaco Hypo-Allergic Milks.

Attach coupon to Rx blank or letterhead. 30-33

The Diagnostic Department of Research Hospital

The Diagnostic Department of Research Hospital was established in November, 1924. Patients are received for diagnosis from reputable physicians. On completion of examinations, reports, which include the patient's history, physical examination, laboratory and X-ray reports, the findings of various specialists and the final diagnosis with recommendations for treatment, are sent to the patient's physician—in no instance will reports be given to patients. The fee includes all necessary tests and examination. The following departments are represented:

Medicine, Surgery, Orthopedics, Neurology, Oto-Rhino-Laryngology, Ophthalmology, Urology, Dermatology, Gynecology, Obstetrics, Radiology, Pathology, and Electrocardiography.

For further information address:

THE DIAGNOSTIC DEPARTMENT OF RESEARCH HOSPITAL

23rd and Holmes Sts., Kansas City, Mo.

NATIONAL PNEUMONIA SERA

The Research Laboratories of The National Drug Company have made close studies of producing and refining Anti-Pneumococcic Sera. A method of immunizing horses and a process of concentrating and refining pneumonia sera have been devised enabling us to offer super-refined and extra-concentrated sera approximating six to ten times the potency of the unrefined sera, with a corresponding decrease of inert solids and proteins.

The chill producing substances have been largely removed.

The Super-Refined Pneumonia Sera contain all the specific antibodies, agglutinins, or other antitoxic or antibacterial substances contained in the whole sera; are crystal clear and of the same viscosity as normal serum; the pH is adjusted with meticulous care.

Doses of 10 to 20 cc., repeated every six to eight hours, or as advisable, may be given until a favorable response is secured. The patients' sputum should be typed early and if Type I, II, or III pneumococci are present the serum should be continued.

Pneumonia Polyvalent Serum for Types I, II, or III pneumonia.

Pneumonia Bivalent Serum for Types I and II pneumonia.

Pneumonia Monovalent Serum for Type I pneumonia.

Super-Refined and Extra-Concentrated Pneumonia Sera are furnished in 10 cc. perfected syringes with chromium (rustless steel) intravenous needles. Detailed information on request.

THE NATIONAL DRUG COMPANY
PHILADELPHIA
U.S.A.

Send detailed informatinon on Refined Pneumonia Sera per Journal Kansas Medical Society.

Name_____ **State**_____

City_____ **Date**_____

THE JOURNAL ADVERTISERS

ELI LILLY AND COMPANY

Founded 1876

Makers of Medicinal Products

FOR SIMPLE INSOMNIA

Amytal has a wide range of usefulness . . . is several times as active as barbital . . . ordinary hypnotic doses produce little or no demonstrable effect on blood pressure and respiration . . . it augments the action of analgesics such as amidopyrine, acetphenetidin, and acetylsalicylic acid.

Prompt Attention Given to Professional Inquiries

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA

THE JOURNAL
of the
Kansas Medical Society

VOL. XXXIV TOPEKA, KANSAS, MARCH, 1933 No. 3

ORIGINAL ARTICLES

UNDULANT FEVER WITH REPORT OF CASES OCCURRING IN KANSAS*

EARLE G. BROWN, M.D.

Topeka, Kansas

Undulant fever is a bacteremia or septicemia, characterized by three predominating symptoms: (1) general feeling of weakness, especially in the afternoon and accompanied by headache, or gen eral aching; (2) temperature, which is usually preceded by chilliness, or a definite rigor followed by a hot stage, and (3) profuse sweating. Physicians and health officers, however, have only within recent years had their attention directed to the prevalence of this disease due to *Brucella melitensis* var. *abortus* and *Brucella melitensis* var. *suis*.

Many names have been applied to the disease we now recognize as undulant fever, although the term most generally applied to the infection until a few years ago was Malta fever. The term "undulant fever" was first proposed by Hughes in 1896, and is the designation generally used by English writers.

Hughes points out that Hippocrates described fevers which correspond to undulant fever infection and various writers between 1722 and 1800 gave evidence of having observed the disease. British medical officers, however, who served in Malta after 1800, repeatedly described its occurrence and increasing prevalence especially between the years 1854 and 1860. Marston, one of the medical officers stationed on the island for a period covering the Crimean wars, was the first to differentiate Malta fever from other fevers seen at Malta and other places on the Mediterranean coast. This disease was fully described in his "Report on Fever" for 1861 and designated as Mediterranean remittent, or gastric remittent fever. The following extract is from the introductory paragraph of his report:

"By this is meant a fever characterized by the following symptoms and course; a preliminary stage of subacute dyspepsia, anorexia, nausea, headache, feeling of weakness, lassitude and inaptitude for exertion, mental or physical, chills, muscular pain, and lastly, a fever having a long course, three to five or ten weeks, marked by irregular exacerbations and remissions, great derangements of the assimilative organs, tenderness in the epigastric region, and splenic enlargement. It is prone to relapses, has a protracted convalescence, and is frequently marked by rheumatism."

Five years later, Chartres confirmed Hughes' observations:

"So mild were the symptoms in some of the cases that it became a matter of nice discrimination to distinguish the sick man from the mere pretender. On the other hand, the patient sometimes appeared to have been completely prostrated at once by the severity of the onset. However, in many of these the suddenness of the attack was more apparent than real, for a careful inquiry often revealed a previous stage of dyspepsia, debility and languor."

The studies progressed and Bruce discovered the organism in 1886; isolated it in 1887, and gave it the name *Micrococcus melitensis* in 1893. The name *Brucella melitensis* was proposed by Meyer and Shaw in 1920.

In this country, the early recognized cases occurred in men recently returned from the Tropics, the first being reported in 1898. In 1904, Col. C. F. Craig, Medical Corps, U.S.A., reported a case in the person of an army nurse, who had never been out of the United States. Craig in his report of this case suggested:

*Read at the 74th annual meeting of the Kansas Medical Society, Kansas City, Kansas, May 3, 4 and 5, 1932.

"That a careful study by use of the Widal test and the agglutination reaction with *Micrococcus melitensis,* of many of the cases of obscure continued fevers which are prevalent in this country will result in the demonstration that Malta fever is by no means a rare disease in the warmer portions of the United States, and that many of the so-called anomalous cases of typhoid fever are in reality instances of infection with the organism of Malta fever."

Ferenbaugh and Gentry, also army medical officers reported a series of cases from Texas in 1911 and offered the opinion that Malta fever had in all probability been present in that state for a period of at least twenty-five years. Additional cases were reported from the Southwest by other investigators in the succeeding three or four years. Then followed a lapse of some five years in which the disease was unrecognized or perhaps forgotten until interest was awakened by the report of Lake and Watkins of the epidemic in Phoenix, Arizona, in 1922.

During the period 1905-24, inclusive, 128 cases were reported in the United States and with the exception of seven cases, all from the states of New Mexico, Arizona and Texas. Twenty-four cases were reported in 1925 and 46 in 1926. Of the cases reported in 1926, 16 were from New York state; 1 from Pennsylvania; 2 from Ohio; 17 from Wisconsin; five from Illinois; four from Texas, and one each from Iowa and California. In the period 1905-24, cases were reported, almost without exception from goat-raising areas, but in 1926 for the first time numerous cases were recognized and reported from states where there were comparatively small numbers of goats. In 1927, 217 cases were reported in the United States; 647 in 1928; 1305 in 1929; 1385 in 1930; 1580 in 1931.

Bruce defined Malta fever as a "disease of long duration characterized clinically by continued fever, profuse perspiration, constipation, frequent relapses, rheumatic or neuralgic pains, swelling of joints or orchitis; bacteriologically by the presence in the blood of organisms of *Micrococcus melitensis* (now *Brucella melitensis*); anatomically by congestion of the spleen and other organs."

According to Hasseltine:

"At the present time it appears that there are at least three strains of the *Brucella* germs that may cause undulant fever. These are known as the *caprine, bovine* and *porcine* strains. Huddleson has assigned to each a specific name, the *caprine* strain being *Brucella melitensis;* the *bovine* strain being *Brucella bovis* and the *porcine* strain *Brucella suis.* If this nomenclature should be accepted it will avoid some confusion, for the adjective used to specify a strain does not necessarily denote its source. Apparently cattle can be infected with all three strains, so a human case contracted from cattle may be due to any of the three strains. There is no record of swine being infected naturally with the bovine or caprine strains. Close study of the bovine and porcine strains of *Brucella abortus* show distinct differences in cultural, biological and pathogenic characteristics, which seem likely to result in these two being ultimately considered two distinct species."

According to Hardy: "The factors which determine the transmission of a particular disease from animal to man are dependent, in different localities, on (1) the incidence of the infection among animals, and (2) the degree of man's exposure, either direct or indirect. Variations in the habits and occupations of the people and their relation to animal industries, provide different contacts. For these reasons epidemiological studies on the same disease in different states may bring different facts to light. Herein lies the value of intensive local studies, as each may make a contribution to the general knowledge, which of necessity must be compounded of fragments gathered here and there."

Hardy and Haseltine collected epidemiological data on 442 cases of undulant fever, the cases being divided into three main groups: (1) those without significant exposure to livestock or carcasses, (mostly urban cases); (2) rural cases having direct contact with livestock; and (3) urban cases having direct contact with livestock or carcasses. These were designated as the milk, farm and

meat groups, respectively.

A bulletin on undulant fever was distributed to all Kansas physicians during the latter part of 1928, by the state board of health. This bulletin also contained brief summaries of sixty cases which had been reported during the preceding eighteen months.

Kansas, of course, we recognize as an agricultural state, which also has a large number of cattle and hogs, but comparatively few goats. Contagious abortion is reported present in many areas of the state. A very small proportion of the milk is pasteurized, this safeguard being largely practiced in the larger cities. Through contact with aborting animals or carcasses, plus the use of raw milk, opportunity is presented for infection.

The first cases of undulant fever were recognized and reported by Major C. C. Hillman, of the army medical corps while stationed at Fort Riley. Three cases were reported in March, 1928, although the onset occurred in September, October and December, 1927. In 1928, 14 cases were reported; in 1929, 85; in 1930, 99 and in 1931, 64. The total of cases reported for 1932 brings the grand total to more than 270.

Cases have been reported from 65 of the 105 counties, as shown in Fig. 1. Multiple cases were reported in three families: 3 cases in one family, and two cases in each of 2 families.

In the presentation of this data, varying numbers of cases will be used in the different tables, the result of inability to secure complete epidemiological data in each case.

OCCURRENCE OF CASES
BY
SEX AND AGE GROUPS

AGE GROUP	NUMBER	PER CENT
0–9	8	4.3
	4	3.5
10–19	15	10.0
	13	11.3
20–29	38	25.3
	31	26.9
30–39	31	20.6
	29	25.2
40–49	27	18.0
	18	15.6
50–59	20	13.3
	13	11.3
60–69	6	4.2
	4	3.5
70–79	3	2.0
	2	1.7
80–89	2	1.3
	1	0.8

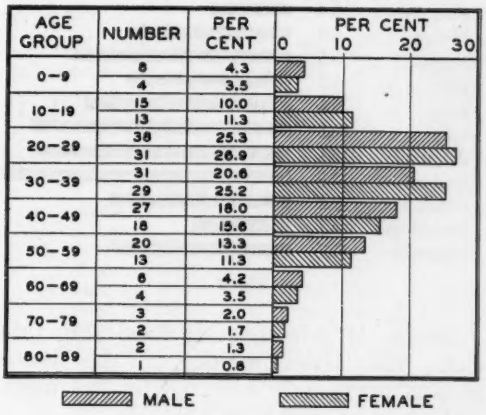


Fig. 2

Occupations—Occupations of 267 cases were listed as follows: housewives and housekeepers, 82 (30%); farmers, farm laborers, dairymen, 54 (20%); students, 30 (11%); packing house employees, serum company, butchers and similar trades, 17 (6%) and all other, 84 (33%).

Sex—Of the 267 cases, 150 were males and 117 females.

Age—Of the 150 males, 97 or 63.9% were in the age group 20-49 years, while 78 of the 115 females, or 67.7 were in the same age group. Occurrence of cases by sex and age groups is shown in Fig. 2.

UNDULANT FEVER – DISTRIBUTION OF 267 CASES

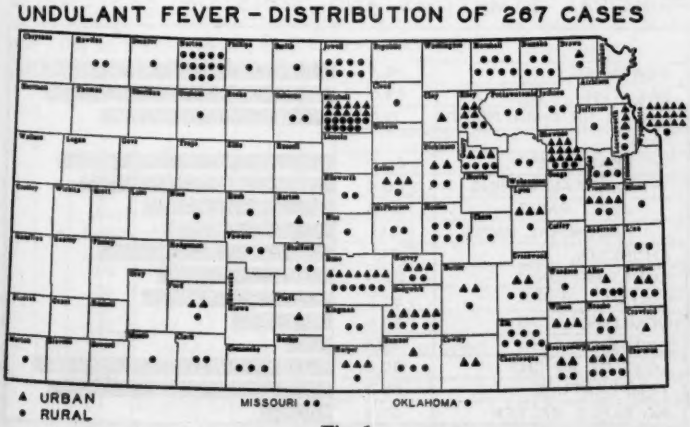


Fig. 1

Seasonal distribution—Cases in which the month of onset was given, regardless of year, are shown in Figure 3. It will be noted infections were reported as occurring each month of the year, but with the highest proportion during the spring and summer months, reaching the maximum in September.

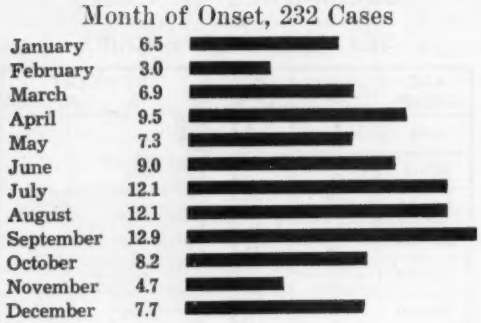


Fig. 3

Source of infection—In analyzing this data, the classification of the three groups previously referred to was used. This data is shown in Table 1.

Table I
Source of Infection—257 cases.

	Milk		Farm		Meat	
	M	F	M	F	M	F
Rural	24	55	64	9	1	0
Urban	44	49	2*	0	6	1
Totals	68	104	66	9	7	1
	172		75		8	
Percent	67.4		29.4		3.1	

*Veterinary students.

CLINICAL INFORMATION

Clinical types—Hughes described three types of the disease: the malignant, the undulatory and the intermittent, but also recognized an ambulatory form and an irregular variety.

Hardy states the majority of the Iowa cases were of the intermittent type, the onset being insidious, and a sense of progressing afternoon weariness first oppressing the patient. The majority of the infections lasted between six weeks and four months. Twenty-five per cent of the infections were classed as of the ambulatory type with quite insidious onset, the one constant symptom and occasionally the only one, being weakness or lack of endurance. The distinguishing characteristic of the undulatory type of cases was the occurrence of relapses. Fifteen per cent of the Iowa cases suffered relapses, but even in these, typical undulations were rarely observed.

Onset—The onset may be gradual or insidious and many of the Kansas cases were reported as having a gradual onset. During this period, the symptoms varied greatly.

SYMPTONS

The common signs and symptoms observed in 225 cases are shown in Fig. 4.

Three cardinal symptoms are present in undulant fever: weakness, temperature and sweating.

Weakness—This was the one most prominent symptom and occurred most frequently during the period of onset. It was reported absent in 4 per cent of the cases.

Sweating—This condition was reported in 88 per cent of cases. Frequently, comment was made of "drenching" sweats occurring while the patient was asleep and also numerous cases where sweating occurred in the upper half of the body and occasionally only of the head and neck.

Chills or chilliness—This symptom was present in approximately three-fourths of the cases, but was reported most frequently as a chilly sensation, rather than a true chill.

Pain—Headache occurred most frequently during the early stages of the disease. As it accompanied the rise in

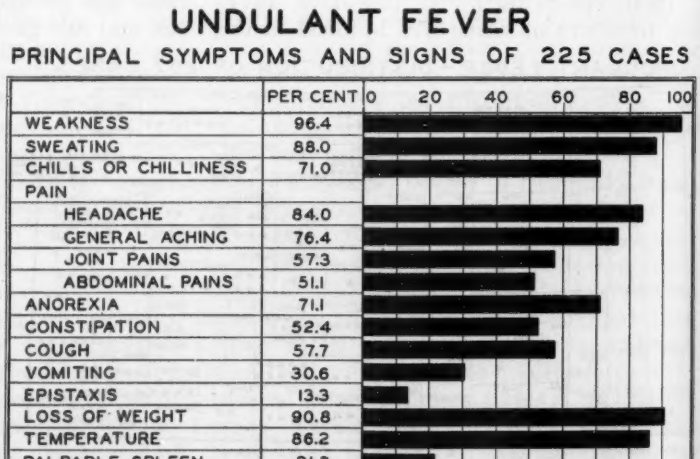


Fig. 4

temperature, it was most severe at the time the temperature was highest, usually in the afternoon. General aching was reported in approximately three-fourths of the cases, while joint pains occurred in slightly more than 50 per cent, as did also abdominal pains.

Anorexia—Loss of appetite was reported in 71 per cent. Complete loss of appetite extending over a period of days or weeks was reported in many of the severe infections.

Constipation — Constipation was reported in 52 per cent. Diarrhea was reported in only 11 of the 225 cases.

Cough—Cough, or a mild bronchitis was reported in 57 per cent.

Vomiting—This symptom was reported in 30 per cent. However, notation was made in a number of cases that vomiting occurred but one, two or three times and then during the onset of the disease.

Epistaxis—Epistaxis was reported in but 13 per cent of cases. Comment was made in a number of cases that nose bleed occurred but once or twice, and therefore cannot be counted as a constant symptom.

Loss of Weight—Loss of weight was reported in 9 of each 10 patients.

Temperature—Temperature was reported in 86 per cent of the cases. It cannot, however, be stated that patients contracting the disease do not have a temperature, but the reports were based on physician's observations, and many patients were seen during the convalescent period at which time they were undoubtedly temperature free. Maximum temperatures reported in 211 cases are shown in Table 2.

Table 2
Range of Temperatures.

	Number
N to 99	0
99 to 100	14
100 to 101	12
101 to 102	27
102 to 103	36
103 to 104	58
104 to 105	41
105 to 106	19
106 to 107	3
107 to 108	1

Palpable spleen—A palpable spleen was reported in 21 per cent of cases.

BLOOD EXAMINATION

Hemoglobin—In 127 cases, the average hemoglobin content was 76 per cent.

Red blood cells—The average red blood cell count for 100 patients was 4,204,840.

White cell counts—White cell counts were reported in 113 cases. In fifty-six patients, a white cell count of less than 7,000 was reported. White cell counts are shown in Table 3.

Table 3
White Cell Counts.

White Cell Count	No. of Cases
1000 to 2000	1
2000 to 3000	0
3000 to 4000	4
4000 to 5000	11
5000 to 6000	15
6000 to 7000	25
7000 to 8000	11
8000 to 9000	16
9000 to 10000	17
Over 10000	13

Differential white counts were reported in 32 cases, the average being as follows:

Neutrophiles	63.19
Eosinophiles	0.95
Basophiles	0.73
Lymphocytes	29.75
Large mononuclears	5.38

Diseases which were first suspected when the patient consulted the physician, included: typhoid fever, 41; tuberculosis, 38; influenza, 23; undulant fever, 17; malaria, 17; typhoid fever or malaria, 9; puerperal infection, 6; rheumatism, 5; heart disease, 5; appendicitis, 4; hyperthyroidism, 3; gastro-enteritis, or colitis, 6; bronchitis, Vincent's angina, and kidney infection, 2 each. Single cases of syphilis, pneumonia, infected tonsils, septicemia, acute nephritis, lumbago, pleurisy, brain tumor, gall bladder infection, glandular infection, toxemia, focal infection, hay fever, and bladder infection. Report was not received of disease suspected in 63 cases.

Complications which develop most frequently include: endocarditis, arthritis, orchitis, mastitis and abortion.

DIAGNOSIS

The typical case presents a chain of symptoms somewhat as follows: Chilliness, the temperature rising step-like, usually slightly higher on each successive night—falling in the morning—until it reaches 103 to 105. Profuse night sweats are characteristic, generally occurring after midnight. The condition continues

about the same for six to eight weeks or more, then the temperature gradually declines and reaches normal or subnormal. In some of the cases, the temperature may rise again after a remission, lasting several days. In the interval between attacks of fever, the patient feels weak but generally otherwise normal. As these recurrences continue, lasting for months, there is a marked anemia and functional heart murmurs may develop. There is also loss of weight, extreme prostration, nervousness and the patient may become greatly depressed.

Rarely are patients dangerously ill and it is for that reason that a complete physical examination is so frequently neglected.

Laboratory procedures which are of value in diagnosis include: agglutination tests, blood culture, hemoglobin content, red, white and differential counts. Of these, the agglutination test is of the greatest value.

DIFFERENTIAL DIAGNOSIS

Diseases which are most frequently confused with undulant fever are: typhoid fever, tuberculosis, malaria, influenza, heart disease, rheumatism, septicemia and appendicitis.

Typhoid fever—Typhoid fever is becoming a rare disease, has a more rapid onset than undulant fever, the patient is usually toxic, has a sustained temperature and profuse sweating is absent. A carefully taken history plus a positive Widal or isolation of the organism will establish the diagnosis.

Tuberculosis—Tuberculosis and undulant fever have many symptoms in common, but laboratory tests will usually establish the diagnosis. Possibility of the co-existence of both diseases should not be overlooked.

Malaria—Malaria cases occur rarely in Kansas unless the infection is imported. Chills, however, are characteristic of malaria. A careful history and laboratory tests will establish the diagnosis in either disease.

Influenza—Approximately 12 per cent of the cases were diagnosed primarily as influenza. According to Hardy: The diagnosis of the case as influenza "is not because undulant fever has any similarity to the acute respiratory infection which occurs in pandemics or epidemics, but because the name is used as an accepted label for all indefinite fevers. We can but advocate a more careful and general consideration of undulant fever and less misuse of the name 'influenza' as such, or its corrupted forms 'flu,' 'intestinal flu,' and 'summer flu'."

Heart disease—The course of an acute endocarditis is similar to that of undulant fever. Endocarditis, however, occurs as a complication of the disease. Again, the differential diagnosis frequently depends upon the laboratory.

Rheumatism—Rheumatism was considered as a primary diagnosis in but five cases, probably because of the complaint of pain in one or more of the joints.

Septicemia—A white count plus an agglutination test should differentiate the two conditions.

Appendicitis—A careful history, physical and laboratory examinations should again readily establish the diagnosis.

PROGNOSIS

During the years 1926-31, inclusive, 265 cases of undulant fever were reported in the state with 17 deaths, a case fatality rate of 6.4 per cent.

TREATMENT

As in most of the infectious diseases, no specific treatment has been developed. Angle was the first to call attention to the use of a specific vaccine and reports favorable results from its use, as does also Simpson. Acriflavine, mercurochrome, neo-arsphenamine and other drugs have been advocated, but apparently used with little success.

"Symptomatic treatment, general supportive measures, and good nursing, coupled with rest in bed during the febrile stages, constitute the greater portion of our efforts to assist nature in bringing about recovery."

PREVENTION

The true prevention of undulant fever is based upon the detection of the disease in livestock and the elimination of those infected from the herds. This, however, is a gigantic task and impossible of accomplishment in a short time. The prevention of undulant fever through the use of infected raw milk may be accom-

plished through pasteurization.

The farm group—It should be comparatively simple where only a few cows are used for the milk supply to have them tested for contagious abortion, with the elimination of those found to be infected. It would also seem logical in handling animals or livestock infected with the disease, the wearing of heavy gloves would prevent many cases arising from this source.

The meat group—Here again it appears the wearing of heavy gloves would reduce the number of cases, plus prompt attention to minor injuries, such as scratches or breaks of any kind in the skin.

PROGNOSIS

"The outlook for the patient is usually good as far as life is concerned, but no one can tell how long the disease will continue—it may last from a few months to a few years."

BIBLIOGRAPHY

Hillman, C. C.: Personal communication, March 11, 1927.

Hardy, A. V.: Undulant Fever, Clinical Aspects of Cases Which Have Occurred in Iowa. Jour. I.S.M.S., Oct. 1928.

Hardy, A. V.: Undulant Fever, A Clinical Analysis of One Hundred Twenty-Five Cases. Jour. A.M.A. March 16, 1929. Vol. 92, pp. 853-860.

Bulletin Kansas State Board of Health: Undulant Fever. Vol. VII, No. 5, Sept. 1929.

Watkins, W. Warner and Lake: Malta Fever. with Especial Reference to the Phoenix, Arizona, Epidemic of 1922. Jour. A.M.A. Vol. 89, pp. 1581-1584.

Ohio Department of Health: Undulant Fever, Administrative Bulletin No. 89, Sept. 22, 1931.

Hasseltine, H. E., Surgeon, U. S. Public Health Service: Recent Progress in Studies of Undulant Fever. Public Health Reports, Vol. 45, No. 29, July 18, 1930.

National Institute of Health: Undulant Fever, with Special Reference to a Study of Brucella Infection in Iowa. Bulletin No. 158.

Angle, F. E.: The Treatment of Undulant Fever with Vaccine; Report of Ten Cases. Jour. K.M.S., Vol. 30, pp. 323-328.

Hasseltine, H. E.: Senior Surgeon, U. S. Public Health Service; Undulant Fever. Jour. P.H.N., Vol. 24, No. 4, April 1932, pp. 181-186.

—B—

The atypical person is one who is emotionally unstable. His emotional reactions are the basis for his variation from the normal or average individual. The extent to which one is able to influence such a person by means of athletics is great. Atypical individuals can readily be discovered in three distinct classes: First, there are those who drag their feet, who are lazy, who do not get into activities. Second, there are those who are not particularly lazy and who have a great deal of ability but do not cooperate with other people. Third, there are those who are boastful, showing something of the bully. Instructors constantly see these three types of atypical cases in their work. To spend more time in straightening out these boys individually and to keep the normal boys active in groups are indeed worthwhile projects, suggests R. K. Atkinson in "Athletics for the Atypical," in the February issue of "Hygeia," the Health Magazine.

INJECTION OF VARICOSE VEINS WITH CHEMICAL ACTION*

LEWIS W. ANGLE, M.D.

Kansas City, Kansas

While treating aneurysms during the last half of the 18th century, Praraz and the School of Lyons observed the coagulating action of ferric chloride within the vein wall. They injected into veins two or three drops of a 30 per cent solution at weekly intervals and the vein became transformed into a fibrous cord. Weinhemer, in 1884, treated 32 cases with 411 injections of ferric chloride, giving as many as nine injections at one sitting. Among his patients there were 18 who developed partial gangrene and one an abscess. Several fatalities were noted and treatments were shortly abandoned. In 1880, Negrette used injections of ferric chloride but in too small a number of cases to arrive at a definite conclusion. Tavel of Berne used a 5 per cent phenol solution in conjunction with ligation of the internal saphena, with more or less satisfactory results. Wood, using ferric sulphate, obtained three complete cures in 11 cases. Valet used iodotannic fluid, probably because of its greater harmlessness and because of the antiseptic properties of the iodine. He had one radical cure in 300 cases. Ollier had one patient that died. Delore, in 1894, stressed the irritating and fibrosing action of the iodine-tannic acid solution rather than its coagulating action. Hence, from 1894 until 1911 the method of injection of varicose vein was abandoned for two causes: 1, Errors in technic and 2, unsuitable solutions.

In 1911, Blum, working with sodium bicarbonate in the treatment of diabetic coma, observed that the veins were obliterated after several injections. In that year, P. Linser, of Tubingen, made the same observation following the use of mercuric chloride in the treatment of syphilis and applied the solution for the obliteration of varicose veins. Later in 1922, K. Linser changed over to injections of salt solution of varicose veins on account of the toxic effect of the mercury. About the same time, P. Sicard of

*Read before the Wyandotte County Medical Society at Kansas City, October 17, 1931.

the Marseilles School of Medicine, using a proprietary preparation for the treatment of syphilis, made the same observation as Linser, namely, that the basilic vein often became obliterated after injection, with a thrombus formation which sometimes occluded the entire venous tree of the arm and involved the axillary vein. However, no emboli detached. Analyzing the solution, he found that the thrombosing action was due to its sodium carbonate content. He found by using small amounts of sodium carbonate in 20 to 40 per cent solutions he could obliterate varicosities without any untoward results, provided his technic was perfect. However when the solution was injected outside the vein wall a slough resulted. He, therefore, added a few drops of methylene blue so that he could observe whether any solution was escaping into the tissues. Later on, Sicard used sodium salicylate, for he found it to have a much less caustic action than the carbonate, and by 1917 had popularized the injection treatment in France. In 1924, M. Bazelis, a pupil of Sicard, published his thesis on the treatment of varices by intravenous injections of sodium salicylate, after observation of the treatment for three years in thousands of cases, and made the remarkable observation that there had not been a single case of migration of the thrombus.

SOLUTIONS AND TECHNIC

In the past eight or ten years many solutions have been used in this country and abroad, each pioneer worker advocating his own solution, as Sicard of Paris sodium salicylate; V. Meisen of Copenhagen sodium chloride and sodium salicylate; McFeeters various forms of sugar chiefly invertose; White of Boston quinine urethane; de Takats of Chicago glucose and sodium chloride, and Angle and Kern of Johns Hopkins an equal mixture of glucose and sodium chloride. In the past few months French workers have reported excellent results from using 50 per cent glycerine, while English workers have been using sodium mauriate with good results.

According to literature one may say there are certain objections to any one of these solutions, but in the hands of competent workers I am sure that results may be obtained from any one of them in the presence of proper technic. Many strong irritating solutions will give a severe cramp during and after injection as sodium chloride, quinine urethane and sodium salicylate; also these solutions when injected outside of the vein wall cause a slough. With the use of glucose or invertose alone the cramp is reduced to a minimum, but the results are not satisfactory as in the use of other solutions. During the past few years, I have used a mixture of glucose 50 per cent with equal parts of sodium chloride 30 per cent as suggested in 1929 by Kern and myself. There are many advantages to this solution as the cramp is reduced to a minimum. When injected outside the vein we do not get a slough and it is suitable for large or small veins.

As to dosage there is a wide variation according to the solution used which is from 1 c.c. for quinine urethane to 40 or 50 c.c. of invertose. In using a mixture of glucose and sodium chloride, the dose would range from 2 c.c. to 10 c.c. at one injection, never exceeding 20 c.c. when both legs are injected at the same time.

Syringe and needles—The ordinary 5 or 10 c.c. Luer syringe and 24 to 26 gage needles are used, depending on the size of the varix to be injected. We cannot over emphasize the fact that a successful vein puncture depends, to a great extent on the sharpness of the needle.

Site of injection—In the usual cases in which the varicosities are limited to the leg, injection is usually begun in the most prominent protrusion of the most distal varix. In those cases in which the varices are not only present below the knee but involve the internal saphenous vein for some distance up to the thigh, injection is best begun just below the knee so as to block the main channel. After this is accomplished the varices distally located respond quickly to the treatment. In fact, we have found repeated injections in the lower branches to fail until this was done.

We have not hesitated to inject varicosities in the upper third of the thigh and have caused thrombosis within two inches of the fossa ovalis. It is my feel-

ing that if the saphenous vein is dilated and tortuous above the knee and there are varices present below the knee, the entire affected venous tree must be obliterated, or there will be a recurrence of varices on the leg, because of the great downward pressure of the heavy column of blood.

Position of patient during injection— (a) Standing is perhaps the most unsatisfactory position of all, both to the patient and to the operator. However, in some cases in which certain varices are prominent enough to be injected only when the patient is standing, it is the method of choice.

(b) The sitting position is perhaps more comfortable to the patient but less satisfactory to the operator. As the leg bends, the varix to be entered is distended. It is entered by the needle and the leg brought to a position of 90 degrees by the assistant, so as to empty the veins partially. During this shift in position, however, the vein is often ruptured, the needle is pushed through the posterior wall of the vein or pulled out of the lumen, and an unsuccessful puncture or injection is made.

(c) The horizontal is the most satisfactory position of all but unfortunately cannot be maintained in all cases. The patient is asked to stand, and while the varices are well distended a tourniquet is applied proximal to the site of injection. The patient then lies down, the varix is entered easily. A tourniquet is then applied distal to the point of puncture, now we relieve the proximal tourniquet to allow the vein to empty itself. After this is done the tourniquet is tightened, then the injection is made in an almost empty segment of vein. This allows the injected fluid to come in direct contact with the vein wall (intima), resulting in an inflammation and destruction of the endothelial lining. Some workers may find the use of tourniquet troublesome. In that case there are many appliances on the market which can be strapped to the leg which will block any desired segment.

In cases complicated by ulcer or eczema, an attempt is made to inject the varix, that is keep this area engorged with venous blood. The varices in such cases are often hidden by the thickened tissues and are at times most difficult to locate. If the leg is raised and the vessels emptied of blood, the varix may be palpated as a deep channel between the scar tissue walls. Injection should be made well distal to the infected ulcer in order to avoid a septic thrombus. The healing of the ulcer or eczema will depend on the ability of the operator to find and inject the offending varix.

Amount of solution—The mixture of dextrose solution, 50 per cent, and of salt solution, 30 per cent, is used in doses of from 2 to 10 c.c. depending on the size and length of the varix to be injected. We never inject more than 10 c.c. into one varix and not more than 20 c.c. at one sitting.

Injection — The skin overlying the varix is cleaned with tincture of iodine followed by alcohol. Several minims of blood are aspirated after the varix has been entered and the injection is slowly begun, with alternate aspirations of blood and injections of solution, so that one may be sure that the needle is always within the lumen of the vein.

After the injection is completed, the needle is quickly withdrawn and pressure applied with a gauze sponge until the puncture is closed. The patient is then asked to keep the leg in a horizontal position for 15 minutes and often the vein can be felt as definitely thrombosed before the patient leaves the table. If the injection has been made with the patient in the prone position, thrombosis will occur proximal to the point of injection; however, if the patient was standing it will be distal to this point. A firm pressure bandage taking in the entire leg and foot is applied and worn continuously during treatment and for three weeks after the last injection in order to support the veins until complete organization of the thrombi has taken place.

Injections are repeated every other day or twice a week, depending on the patient. The number of injections required to obliterate individual varicosities varies too widely to permit a definite statement. Many times the larger thick-walled tortuous veins respond more

quickly than those with thin walls.

Clinical effect of the injection—When the patient returns 48 hours after treatment, he may or may not complain of discomfort in the legs. The majority of patients are unaware that anything has happened to their veins until palpation reveals slight tenderness along the course of injection. The vein can be palpated as a firm cord about one-third its former size. The skin over the vein is discolored slightly having a light bronze-cast which is thought by some to be due to the destruction of the sympathetic fibers acompanying the vein. We feel that it is due to the inflammatory process involving the vein and deeper layers of the skin.

EXPERIMENTAL WORK

Operation — (Dogs were used as subjects). Under ether anaesthesia a longitudinal incision about three inches long was made directly over the jugular vein. With blunt dissection the vein was exposed for about two inches. A silk thread was passed under the vein at the distal part and a like thread was passed under the vein at the proximal part, sufficient traction was made on each until the vein was almost empty of blood then with a small syringe and a very fine needle the solution was injected within the vein lumen, the threads being held intact for at least five minutes to allow the irritating solution to come in contact with the intima of the vein. The threads were

FIG. 1

Cross section of external jugular vein of dog removed 48 hours after injection with 5 minimums of 30 per cent sodium chloride. Presenting vein wall and thrombus, leukocytic infiltration of vein wall with inflammatory reaction—low power.

FIG. 2

Cross section of external jugular vein of dog removed 72 hours after an injection of 5 minimums of a mixture in equal part of 50 per cent glucose and sodium chloride 30 per cent. Presenting an occluded lumen by a firm thrombus, an absent endothelium with an inflammatory reaction in the media and adventitia—low power.

FIG. 3

Cross section of external jugular vein of dog removed one week after injection of 5 minimums of 30 per cent sodium chloride. Presenting vein wall and thrombus with many fibroblast growing into the thrombus—low power.

FIG. 4

Cross section of external jugular vein of dog removed two weeks after injection with 30 per cent sodium chloride. Presenting entire thrombus and a portion of vein wall, a two-thirds organized thrombus, and a central core of unorganized blood—low power.

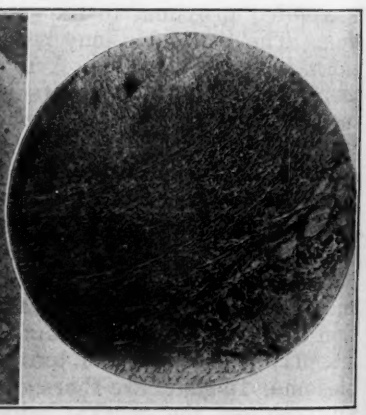


FIG. 5

Cross section of external jugular vein of dog removed four weeks after injection of 5 minimums of 30 per cent sodium chloride. Presenting an almost completely organized thrombus, a dark area of unorganized blood and fibrous tissue formation in the media—low power.

withdrawn and the wound closed in the usual manner.

RESULTS

Specimens of the veins were removed at various intervals. Specimen 1, presented an inflammatory reaction of the surrounding tissue. The vein was decreased in size and on section it contained a hard and firm thrombus which was difficult to dislodge. There was no fluid blood (Fig. 1).

Specimen 2, presented marked fibrous of surrounding tissue with a vein which had decreased markedly in diameter and contained a firm hard thrombus.

Specimens 3, 4 and 5 presented essentially the same process but in a more progressive state toward fibrosis.

CONCLUSION

1. The injection method is the method of choice over the operative procedure.

2. The contra-indications are: (1) active on latent phlebitis; (2) obstruction of deep veins, and (3) arterial diseases of the extremities.

3. A mixture of 50 per cent glucose and 30 per cent sodium chloride is an ideal solution.

4. The horizontal position is the best to use when possible.

5. Little or no danger accompanies an injection when done by a careful operator.

6. Best results are obtained when the injected fluid is allowed to remain in direct contact with the intima of the vein wall for the longest period practicable in its highest concentration.

———R———

"Clean, Safe Milk," S. V. Layson explains in *Hygeia* in the January issue, comes from the healthy, tuberculin-tested cow; it is kept clean by being handled by healthy dairymen, by being kept in sanitary containers, by pasteurization and by adequate cooling systems. "The sanitation of milk should start the instant it leaves the udder of the healthy cow," the author explains. It would be mutually advantageous to producer and consumer if the city milk supply received more interest from its consumers, in regard to the source and quality of the milk.

BIRTH INJURIES IN THE NEWLY BORN*

JAMES A. WHEELER, M.D.

Newton, Kansas

In the past few years a great amount of work has been done and a number of articles have appeared in the literature on the subject of "Birth Injuries in the Newly Born." In our own state of Kansas, we have only been recording birth injury as a cause of death since 1925; since that time deaths due to this cause have steadily increased. Surveys of the crippled children problem, in this state and in the surrounding states, have shown that 20 to 25 per cent of our mental deficiencies and late cripples are due to the condition classified as birth injuries in the newly born.

In attending a Rotary clinic for crippled children several years ago, I was struck by the continual reference of the examiner that this and that case was due to a birth injury, and as far as their or thopedic treatment was concerned, nothing could be accomplished unless the underlying spastic mental condition and associated endocrine disturbance were improved. This particular meeting increased my interest in the subject and after reviewing the work of about thirty different authors, I shall present in condensed form, a few conclusions that were reached in their papers on the subject of birth injury.

In spite of the fact that attention is being called constantly to this condition of newly born infants, both by the obstetricians and pediatrists, it still continues to occur with a disquieting frequency. It has been the custom to attribute intracranial hemorrhage to poor obstetrics, and while it is still true that trauma is the great single factor in causing cerebral birth injury, still there are other causes altogether unrelated to obstetrics, such as: prenatal toxemia, asphyxia, prematurity, sepsis neonatorum, high viscosity of the blood, congenital anomalies, imperfect vascular development and syphilis. The difference occurring by the intra-atmospheric pressure is also spoken of as a contributing cause.

*Read before the Shawnee County Medical Society at Topeka, September 5, 1932.

One of the most common lesions shown by post mortem is the tearing of the tentorium, though damage to the falx cerebrae, to the tributary veins of the longitudinal sinus or to the veins of Galen, may also give rise to bleeding; hemorrhage from the choroid plexus may fill the ventricle with blood. Hemorrhages of any extent into the brain substance are probably not very common, although petechial hemorrhages of the brain substance are of frequent occurrence. The condition which has been emphasized from the obstetrical standpoint and most frequently causes trouble of this nature, is the breech presentation. The sudden compression of the head, perhaps in the long diameter, often causes serious injury to the after coming head. Next to this the indiscriminate use of pituitrin has been most frequently mentioned. It is needless to describe the action and danger of this drug.

The symptoms most frequently noticed in cases of intracranial hemorrhage of the newly born may be immediate or may be delayed for several days after parturition. One of the first things noticed is the cessation of the normal nursing after it has once been established. The child may be restless or cry with a high shrill cry spoken of in literature as a meningeal cry, or it may be very quiet and limp. It is usually pale and often has what the nurse describes as blue spells. The pulse may be either slow or rapid, the temperature normal or subnormal, but usually elevated. If the child has taken but a small amount of fluid and is dehydrated, the temperature may become higher. Respiratory difficulty is a frequent symptom and Cheyne-Stokes type of respiration is not uncommon. Bulging of the anterior fontanel, while often present, is not a common symptom. Blood in the spinal fluid is an important symptom. There occurs an inability to suck and a difficulty in swallowing. There may be signs of cerebral irritation, such as twitching of the hands and feet, sometimes slight convulsions. Nystagmus is often noted. Vomiting is quite a common symptom. Death may occur very suddenly without previous symptoms indicative of intracranial hemorrhage. The prolongation of coagulating time must be considered as a predisposing factor, but not one of prime importance. One point that must be kept in mind and it is not mentioned in our recent text books, is that hemorrhage may be limited to one organ or part, or it may be general in character, involving the skin, mucus membrane, meninges and the parenchymatous organs. Bleeding may manifest itself in the form of oozing from the umbilicus, skin, mucus membranes of the mouth, stomach or intestines, vomiting of blood, passing of a bloody or tarry stool. The most common type, and one which can easily be overlooked is in the form of subcutaneous or concealed hemorrhage. Cerebral hemorrhage has been reported as a cause of 76 per cent of deaths in the newly born. It is probably the cause of more than half the deaths caused in the first few days of life. Many infants suffering from intracranial hemorrhage suffer with the subsequent untoward effects; on the other hand there are infants who survive but with permanent injury to the nervous system. The extent of damage by hemorrhage will depend largely upon the location and size of the extravasation and the amount of absorption which later takes place. In some cases there is considerable absorption and yet enough residue to cause an ill behaved baby for the first 12 to 24 months of its life, caused without doubt by the cerebral lesions. After summing up the opinions of such outstanding authorities as DeLee, obstetrician; Swartz, pathologist; Ehrnfest, pediatrician. I quote the following conclusions:

(a) That birth injury occurs much more often than we suspect.

(b) Practically all prematures are potential bleeders.

(c) That small frail babies are predisposed to hemorrhage.

(d) That breech presentation and podalic version add a great risk of producing intracranial hemorrhage.

(e) That high forceps delivery and mid forceps delivery are also potential danger. Low forceps are not considered as such a great factor.

Prolonged labor, over 2 hours after dilatation is considered complete, de-

mands on good obstetrical authority—the immediate application of forceps. Cesarian operation practically never induces hemorrhage in the new born.

As to treatment: It is considered good obstetrical practice to give whole blood intra-muscular or subcutaneously as a prevention against hemorrhage, to any child having any degree of asphyxia, premature delivery causing extreme molding of the head, or difficult forceps where the baby is slow to breathe, (blue baby). Vigorous artificial methods to induce respiration of the new born are condemned because of the possibility of increasing hemorrhage. The following seems to be the approved method of resuscitation: direct breathing from the operator through gauze into the baby's mouth, possibly giving the baby between 3½ and 4 per cent carbon dioxide, which is a true stimulus to the respiratory center.

Another method is the submerging of the child up to the neck, in hot water, continuing the respiratory methods as described. A child suspected of having cerebral hemorrhage should be kept absolutely quiet in its crib; the temperature kept at an even degree; breast feeding should not be attempted, but the dropper method or the Breck method used. The failure to suck is an early symptom of cerebral injury or pressure and is due to injury of the sucking center in the brain; no manner of stimulus will circumvent this action. Any further sign of brain hemorrhage, in the first 24 hours, should be followed by spinal puncture, but before doing the puncture determine the coagulation time. If the clotting time is slow, whole blood should be given again before spinal puncture is done. Spinal puncture should be repeated as often as from 12 to 24 hours until spinal fluid is clear of blood. Whole blood can be given simultaneously with puncture. It is said that draining the blood from the spinal fluid in the liquid form is better than letting it clot. A sedative, such as chloral hydrate, of 10 to 15 grains may be administered per rectum every three or four hours as needed for restlessness or spasms. Spinal pressure should be determined at each puncture and the spinal tapping continued until the pressure is within normal limits. The normal pressure for an infant is from 3 to 7 cm. (water monometer); anything over 10 cm. in the new born, is considered pathognomonic of brain injury. Early and repeated punctures and administration of whole blood will enhance the prognosis a great deal and in ordinary cases recovery can be expected under proper treatment. Later treatment should consist of most careful handling of the child. It should not be stimulated or handled too much. Feeding should be given careful attention as it is always a problem. Spinal puncture should be used until such time as the pressure and symptoms indicate that it is not necessary for further progress. Coagulation time should be taken before each puncture and whole blood should be used when indicated. Reflex symptoms are not of great value until after the child is 7 months old. Before this age the nerve and cross tracts have not sufficiently developed to give valuable or reliable information. The child will assume a mask-like expression and fixation of the eyes for a good many months. This does not necessarily mean a bad prognosis but should council a guarded one. The child may not sit up until it is one year old; may not walk until it is 12 to 18 months or two years old and still turn out quite normal in later years. Case reports indicate that two years is usually the earliest period to determine the final outcome. However, we have recently reviewed articles on surgical operations on the late cases. We find they have been relatively successful in many instances, even up to 9 years of age. Orthopedic measures may be used after three or four years. Decompressions may be useful to control the pressure after spinal punctures fail to do so. It is of interest to know that Dr. Little of England, for whom Little's disease was named, wrote in 1846 the first paper in regard to paralysis of the new born and at that time he thought it was due to non-development of brain tissue. Nineteen years later he wrote a second thesis in which he stated 70 per cent of the hemi-

plegias and paraplegias were due to birth injuries.

Prevention is the best treatment of birth injury. The administration of whole blood immediately following the delivery or shortly thereafter is considered good obstetrics in any case which shows the slightest suspicion of trouble. Hemorrhage may occur in other organs, such as the endocrine glands, as well as the brain, and late treatment should be directed toward those lines as well as control of the spinal pressure.

For the past two years I have had under my care a number of cases resulting from birth injury. It is needless to say that it is not an encouraging practice but people with these children desire everything to be done that can be done, in hopes that some improvement may occur. I never give a favorable prognosis on any of the late cases but tell the parents there is a definite line of procedure to be followed. The late treatment consists of proper vitamin balance in the diet, spinal punctures, with careful determination of the pressure, serological examinations, and attention to any endocrine disturbance that might be present. If improvement occurs, later orthopedic measures should be instituted to lessen the ultimate deformities. It must be remembered these cases are both hopeless and helpless if neglected or left untreated. If you can get them out of the helpless class you have accomplished something to relieve the parents of their fearful burden. We have been giving this subject careful thought for the past two or three years and we believe, in a number of instances, by timely and early treatment we have saved a number of children who otherwise might have been mentally and physically crippled for life.

—R—

Maxwell Finland and Wheelan D. Sutliff, Boston (Journal A.M.A., Feb. 25, 1933), observed in a group of forty-six cases of pneumonia due to the type II pneumococcus and treated with specific antibodies, that the death rate was considerably lowered and that there was a rapid amelioration of fever and symptoms in comparison with contemporaneous non-serum treated and comparable cases. They believe that the favorable results in their cases were, in their opinion, due to at least three important factors; namely, early treatment, the use of large doses of potent serums, and persistence in the treatment of severe cases.

CATION BALANCE THEORY OF HYPERTENSION*

Louis K. Zimmer, M.D.
Lawrence, Kansas

The apparently great increase of the incidence of hypertension in the last few decades has become a cause for alarm to the medical profession as well as to the laity. The toll of life and disability this condition exacts from all walks of life has caused numerous investigations and continued research. Remedies have been devised and advised in the treatment of this disease, but none have been universally successful. Similarly, many theories have been advanced about the etiology of this condition, and none have met with universal acclaim.

Osler already said, in discussing the cause of high tension, that it is likely that the primary difficulty is somewhere in the capillary bed, in that short space in which the real business of life is transacted. However produced, the important point here is that this hypertension itself leads to arterio-sclerosis, which can be produced experimentally by the injection of epinephrin and other hypertensive substance.

This statement is elaborated in further detail by Weiss and Ellis. They found that, even though the average resistance of the arteriolar system of the greater circulation is twice as great as in normal control subjects, the circulating blood volume, the cardiac output per minute, and the mean velocity of the circulation are either normal or slightly below normal. These findings confirm their previous work in which the capillary pressure in hypertensive patients was found to differ but little from that of normal controls. They believe that hypertension might be a compensatory phenomenon designed to maintain normal tissue oxidation through a normal capillary blood flow.

Stieglitz states that anything that irritates the arteriolar musculature or stimulates the sympathetic pressor fibers may represent the original cause of hypertensive vascular disease. Some of the commonly known "initiating factors"

*Received for publication December 6, 1932.

are endocrine disturbances, dietary irritants, infections, intoxications with metals or chemical irritants, anemia and predisposition to early fatigue of the vascular structures. The perpetuating factor is the vicious circle of spasticity causing muscular fatigue, the fatigue leading to increase of arteriolar irritability, and in turn more spasticity and fatigue. This process, if not checked, leads on to degeneration of the hypertrophied arterial muscle, with subsequent fibrous tissue replacement and arteriolar sclerosis which later stages are not reversible. In other words, continued irritability of the arteriolar musculature may lead to a Gull and Sutton type of arteriosclerosis.

The task, therefore, is to find the irritating substance and eliminate it, if possible, in order to prevent the occurrence of this train of events. The ordinary metabolites cannot be blamed. Some theories hold responsible increased suprarenal activity, cholesterinemia, an excess of dimethylguanidine sulphate in the blood or some pressor substance retained in the blood and causing vasoconstriction. No attention has been given, so far, to the normally present inorganic constituents of blood and their relative importance. Yet one of the most important and effective therapeutic measures in hypertension is a salt free diet. In Europe, the most widely advocated treatment is mineral waters and mineral baths. The beneficial results obtained must be explained by an altered mineral balance in the body. The four important metallic ions, the amounts present in blood serum and relative proportions are:

Sodium	330	mgm per 100 cc	100
Potassium	16-22	mgm per 100 cc	6.5
Calcium	9-11	mgm per 100 cc	2.7-3.3
Magnesium	2-3	mgm per 100 cc	0.9

(Hawk and Bergeim, Pract. Physiol. Chem.)

In this connection I want to quote some paragraphs from McCallum: "The Inorganic Constituents of Blood of Vertebrates, and Its Origin."

The first suggestion bearing on the origin of the inorganic composition of the blood of animals was made by Bunge, who, pointing out that we have inherited the notochord and the branchial clefts from marine ancestors, asked why the high percentage of sodium chloride in our tissues should not be an heirloom from life in the sea in that remote past. Eight years later, R. Quinton enunciated the view that in the great majority of animal organisms the internal medium, the circulatory fluid or haemolymph is from its inorganic constitution but sea water. In support of this, he advanced a number of facts bearing on the internal medium of animals as compared with the composition of sea water, but the parallelism was only in a few instances extended beyond the amounts of sodium chloride in the two media.

In 1930 in discussion of the inorganic composition of certain medusa the author, unaware of the speculations of Bunge and Quinton, advanced the view that the blood plasma of vertebrates and invertebrates with a closed circulatory system is, in its inorganic salts, but a reproduction of the sea water of the remote geological period in which the prototypic representative of such animal forms first made their appearance. It was pointed out that in many invertebrates with a vascular system still freely communicating with the exterior, the circulatory fluid is sea water and this was probably the case also with ancient oceanic forms. The tissues in these later had through a long period of time become so accommodated to the composition of the sea water of the period that when the circulatory system acquired the closed condition the composition of the sea water of that period was, with slight modifications, reproduced in the vascular fluid and thus transmitted to the descendant forms living in different habitats. As corroborative of this view it was shown that even between the blood serum of mammals and that of the ocean today there is a striking resemblance. This is not in concentration, for the salinity of the ocean is about three times that of mammalian blood serum, but in the relative proportions of the sodium, potassium and calcium as indicated:

	Na	K	Ca	Mg	
Blood serum	100	6.69	2.58	0.8	(a)
Blood serum	100	6.5	2.7-3.3	0.9	(b)
Ocean	100	3.66	3.84	11.99	

(a. MacCallum, b. Hawk and Bergeim)

I have added in this table under the figures for blood serum given by MacCallum my own as calculated from Hawk and Bergeim. The resemblances are very close except in the magnesium, but this exception and the minor differences were explained as due to the alteration in composition which the ocean has undergone since the invertebrate form arose, for not only has there been an increase in the saline composition of ocean water but there has obtained a change in the proportion of the basic constituents. This has been brought about by the continued elimination of the potassium and calcium and the retention of the sodium and magnesium derived from the river discharge from the land areas of the globe.

In a subsequent communication these observations were amplified and evidence advanced to show that the history of the composition of the ocean fully accounted for the difference between the composition of the sea water today and the inorganic composition of the mammalian blood plasma.

It would seem accordingly that in the power which the kidneys exercise of regulating and rendering constant uniform not only the saline concentration but also the ratios of sodium, potassium, calcium, and magnesium in the blood of vertebrate so far examined, we have to deal with a function of primal importance inherited from a provertebrate or eovertebrate type. This property was fundamental to evolution. So from the composition of the blood plasma of vertebrates we may infer the relative composition of the ocean in the remote past, when the vertebrate kidney acquired the function of controlling the salts and their concentration in the blood. This would give the ocean of that age in round numbers.

	Na	K	Ca	Mg
Old	100	6.0	3.0	1.5-2.0
Present	100	3.6	3.9	12.1

Whether or not we accept MacCallum's speculations, we must admit the probability that since the beginning of the second half of the geological period the vertebrate vascular system has been adapted to, and has maintained a Na: K: Ca: Mg: ratio of approximately (in round figures) 100:6:3:1. This cation balance is of great importance and it is well to remember that the sodium ion is antagonistic to calcium, potassium, and magnesium.

ACTION OF SODIUM ION

We should consider here some of the actions of sodium ion. There have been repeated statements in the literature stressing the importance of the sodium ions as a cause for the fluid retention in edema. Barker, in a recent article on "Edema as Influenced by a Low Ratio of Sodium to Potassium Intake," says that more thought should be given to the minerals ingested by the patient chronically ill with edema Twelve of his sixteen patients lost their edema when given potassium chloride as a substitute for table salt provided they were placed on a full general diet with an acid ash excess.

Even isotonic sodium chloride solutions are injurious to isolated tissues. The function of isolated tissues requires exactly "balanced" solutions of the type of Ringer's, Locke's or Tyrode's solutions. This is not necessary in the intact animal because the regulating mechanisms of the body rapidly restore the normal concentration *and ion ratio* of the blood. (Sollman).

In investigating the role which sodium chloride played in the exacerbation of symptoms in various sympathetic dermatoses, Keining and Hopf made some very interesting experiments. In selected urticaria patients with no allergic reaction to any certain substance, intradermal injections of isotonic solutions of various sodium salts (chloride, sulphate, carbonate) produced definite wheals. On the other hand, similar tests on NaCl sensitive patients with isotonic solutions of the chloride of Ca, K and Mg were negative, proving that the detrimental action of NaCl was due to the Na-ion. A balanced salt mixture, containing Na, K, Ca and Mg ions in the proportions found in blood serum failed to exacerbate symptoms and when injected intradermally in isotonic solution did not produce wheals in these patients. In treating their patients with a salt mixture of this kind in the diet and strict avoidance of ordinary table salt they obtained surprising re-

sults. An excellent summary of the work of Keining and Hopf as well as further observations with this equilibrated salt diet can be found in a recent article by Eller and Rein in the New York State Journal of Medicine of Nov. 15, 1932.

If we bear in mind that ordinary table salt is almost chemically pure sodium chloride, we can see how it is possible to disturb the normal cation balance in the body through long excessive intake. With ordinary diets, the NaCl intake varies from 10-15 gms per day, which is greatly in excess of the actual needs of the body. It is surprising that the mechanism for disposing of such quantities of excess NaCl is so efficient that the normal cation balance is not more often disturbed.

Hofmeister has shown the liquifying tendency of the sodium ion on colloids in a slightly alkaline medium (such as found in the body). A permanent change in the normal cation relations of body fluids in the direction of Na-excess therefore must exert a detrimental effect on the cell membranes with which it comes in contact. Alteration of the physiological state of cell membranes leads to alteration of stimulus reception and conduction, and increased irritability. If we apply this to the arteriolar muscle cells, the endothelial cells and sympathetic pressor fibres we have an apparent cause for the very factors which as I have pointed out, are responsible for the production of hypertension. I do not mean to say that cationic imbalance is necessarily the sole cause for hypertension, just as Keining and Hopf have shown that vegetative dermatoses, dependent on an increased irritability of the vegetative nervous system, may be maintained and further developed through other causes than the underlying cation imbalance.

Some supporting evidence of this theory can be found in reports of Thomas and Heinbecker on the health and metabolism of Eskimos. Eskimos live on an exclusively carnivorous diet. Contrary to general opinion the Eskimo eats very little fat or blubber. Like other carnivorous animals he obtains a sufficient supply of salt in his food, and outside of that there is no salt available (except possibly sea water). In other words, the salt intake of Eskimos is balanced in the cation proportions, as it is in the flesh of the animals he eats. Thomas states that among 142 adults between ages 40 and 60 who were completely examined, the average blood pressure was 129 systolic and 76 diastolic.

It has often been said and probably justly so that hypertension is a disease of civilization. Civilization is responsible for the production of chemically pure NaCl as table salt and discarding as "impurities" admixtures of calcium, potassium and magnesium salts which are naturally present—although in varying amounts and proportions—in almost every natural source. Our forefathers, like primitive people of today, did not use refined salt. It is more than a bare possibility that unrefined salt provides a sufficient quantity of the ions which are antagonistic to sodium to prevent the injurious effects of sodium excess. In my opinion, this may be the real reason for the increase of hypertension in the last few decades, a more plausible explanation than to blame the high pressure mode of living, the lead in water pipes or even carbon monoxide fumes.

Clinical applications of these theoretical considerations have already been made in the treatment of various diseases in which a salt-free diet is indicated. A new modification of the Herrmannsdorfer-Sauerbruch diet allows the use of a cation-balanced salt. Table salt restriction, which reduces the sodium intake, tends to restore normal cation relations. Similarly, the equilibrated salt mixture likewise tends to re-establish normal cation relations because its sodium content is brought into definite relationship with the antagonistic ions K, Ca and Mg and thus rendered harmless. While the action of a salt-restricted diet and that of a diet salted with this equilibrated salt appears to be analogous, the palatability of their constituent foods will differ widely.

The importance of the sodium ion as a cause for fluid retention has already been mentioned. Therefore a cation-balanced salt is suggested in subacute and chronic

nephritis as well as in cardiac and circulatory conditions with a tendency to edema. Whether or not the use of such salt in the treatment, and especially in the prevention of high blood pressure is beneficial remains to be seen. In presenting a new theory of the etiology of hypertension, to which I like to refer as "cation balance theory," I am fully aware of its speculative character, unsupported by any direct evidence. But if the evidence in support of this theory is scant, at least there is no evidence to the contrary.

SUMMARY

Hypertension is a disease of civilization. Anything that irritates the arteriolar musculature or capillary walls may start a vicious cycle ultimately leading to hypertension. The irritating properties of excess sodium ions in body fluids have been demonstrated. The vertebrate vascular system has been adapted to and has maintained a certain cation balance. Excess intake of pure NaCl in food upsets this balance by exhausting the antagonistic ions. Theoretically it should be possible to prevent high blood pressure and to break up the vicious cycle started by sodium excess by giving a dietary salt which is balanced in the proportions of sodium to sodium antagonists.

REFERENCES

Osler and McCrae: Principles and Practice of Medicine.
Weiss, S. and Ellis, L. B.: Am. Heart J. 5:448, April 1930.
Stieglitz, E. J.: J.A.M.A. 95:824, Sept. 20, 1930.
MacCallum, A. B.: Proc. Roy. Soc. London, Series B.82: 602, 1910.
Barker, M. H.: J.A.M.A., 98: 2193, June 18, 1932.
Sollman, Manual of Pharmacology 2nd Ed.
Keining, E. and Hopf, G.: Deutsche Med. Wehnschr, Vol. 57, No. 5, 1931.
Keining, E. and Hopf, G.: Munchen. Med. Wchnschr, Vol. 78:994, No. 24, 1931. ibib. 78:1033, No. 25, 1931.
Eller, J. J. and Rein, C. R.: New York State J. Med., Nov. 15, 1932.
Hawk and Bergeim: Practical Physiological Chem. Blackiston's, 9th Ed., 1926.
Thomas, Wm. T.: J.A.M.A. 88:1559, May 14, 1927.
Heinbecker, Peter: J. Biol. Chem. 80:461, 1928.

—B—

Frederick G. Dyas and Richard Davison, Chicago (Journal A.M.A., Jan. 28, 1933), invites attention to the increasing frequency of peripheral nerve injuries as the result of automobile accidents. Lacerated wounds caused by flying glass frequently produce scars that contract and impinge on important nerve trunks. The resulting paralysis simulates closely division of the involved nerves. The authors report a case illustrative of the difficulties of diagnosis in cases of constricting scars and the brilliant results obtained by liberation of the compressed nerve trunk.

EXPERIMENTAL WORK ON DEMENTIA PRAECOX

MICHAEL GERUNDO, M.D.*
Topeka, Kansas

After a chemical and physico-chemical study of the blood in dementia praecox, I observed a change in the electric charge of the globulins, an increase of the surface tension and an unstable ionic equilibrium. Some drug tests and the examination of reflexes of the patients, together with the chemical and physico-chemical findings, have led me to believe that dementia praecox is essentially a state of sympaticotonia with an increase of Ca and H ions and a decrease of K and OH ions in the cellular medium. The high percentage of cases showing urobilinogen and indican in the urine and black precipitate in the presence of silver nitrate indicated that the basic cause of the trouble might lie in the liver.

I discovered, during ultramicroscopic examination of the serum and plasma, a picture characteristic of the disease. I found, in the blood serum, a great dispersion of the micellae in direct relation to the clinical state of the disease and, sometimes, some very small agglomerations indicating the beginning of flocculation. Due to the presence of more libile proteins in the plasma there is a greater tendency to form both small and large agglomerations of the coarse micellae.[1]

With the idea that troubles of a colloidal nature were present in the micellar and intermicellar medium, I decided to apply the hemoclasic crisis test of Professor Widal, and the colloidal reaction of Lange in my study of dementia praecox.

According to the original studies of Professor Widal, normally, after a meal rich in albumins, a part of the proteins not entirely split, pass into the portal vein, during the two hours following the ingestion, and reach the liver, where they are fixed and transformed. If the liver is unable or insufficient to perform its normal functions these unsplit proteins pass the hepatic barrier and enter the blood stream, causing a colloidal disqui-

1. Pathologica, No. 481, November, 1931, and No. 493, November, 1932.

*Pathologist, Topeka State Hospital.

librium, an hemoclasic or colloidoclasic shock. This shock is easily discernable by the hematological changes, leucopenia and decrease of polymorphonuclears, following the ingestion of albuminoids.

The hepatic insufficiency, as shown by such test, with abnormal excretions of urobiline and biliary salts in the urine, constitutes, for Widal, the signs of hepatism. A typical figure of such test is shown:

Count previous to test meal	9,050
Twenty minutes after test meal	6,350
Forty minutes after test meal	6,475
Sixty minutes after test meal	6,100
Eighty minutes after test meal	6,000

The differential count gave 70 per cent polymorphonuclears previous to the test; 50 per cent sixty minutes after.

It is to be seen, from the colloidal reaction applied to the serum, that there is a marked difference between the serums of the normal subjects and the patients; due, no doubt, to the instability of colloidal equilibrium in dementia praecox.

In autopsy material, consistently I have found anomalies of the gastro-intestinal tube, fat degeneration of the liver cells around the porto-biliary spaces, and a varied brain pathology.

To determine the truth of a possible failure of the liver, I started a series of experiments on rabbits. In the case of catatonia there are physical signs of disease, such as stupor and rigidity, which can be reproduced at will by the use of drugs. The lesions of the liver and brain attract most attention in the rabbits treated with luminal. The liver already macroscopically was enlarged and somewhat granular. On section it showed yellow spots in a dark environing tissue; microscopically, chiefly in the peripheral area, there is evident degeneration of the hepatic cells. Many of the cells show vacuolization due to fat degeneration, others show only a pyknotic nucleus in degeneration, while all the cytoplasm is filled with fat, while others show a granular cytoplasm. The sinuses are congested and dilated and here and there small hemorrhages are present. Around the vessels there is a certain proliferation of the connective tissue with some strands running between the parenchyma. The brains showed various lesions of the cortex and basal ganglia.

What I would like to emphasize is a certain similarity of pathological findings with dementia praecox where the lesions of the liver are, in my opinion, undoubtedly the factors determining biochemical changes acting on the brain colloidal equilibrium.

The slow intoxication experimentally produced in the rabbits determine an impairment of liver function with definite lesions and changes in the cells of the nervous system. The symptomatology observed during such intoxication recalls some of the physical signs observed commonly in dementia praecox of the catatonic type.

Is there any relation between liver function and nervous function? Is there any neurotropic action or secretion of the liver or is it the lack of detoxicating power of the liver which permits some toxic substance to injure the fine architecture of the nervous cells, or is it rather an altered biochemism brought about by a lesion of the liver?

I point out only that there is a certain functional correlation between the liver and the nervous tissue. The finding of lesions in the liver in dementia praecox offers confirmation on experimental grounds.

B

"WHEN, AS AND IF"

the bottle-fed baby exhibits symptoms indicating partial vitamin B deficiency—described by Hoobler as (1) anorexia (2) loss of weight (3) spasticity of arms and legs (4) restlessness, fretfulness (5) pallor, low hemoglobin, etc.

Dextri-Maltose with Vitamin B may be used in adequate amounts (up to 71 Chick-Roscoe units) without causing digestive disturbance. This ethically advertised product derives its vitamin B complex from an extract of wheat germ rich in B and brewers yeast rich in G. Physicians who have attempted to make vitamin B additions to the infant's formula but who have been obliged to abandon this due to diarrheas or other unfortunate nutritional upsets, will welcome Mead's Dextri-Maltose with Vitamin B. This is a tested product with rich laboratory and clinical background and is made by Mead Johnson & Company, a house specializing in infant diet materials.

Not all infants require vitamin B supplements, but when the infant needs additional vitamin B, this product supplies it together with carbohydrate. In other cases, the carbohydrate of choice is Dextri-Maltose No. 1, 2 or 3.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Pyelitis of Pregnancy*

T. J. Sims, Jr., M.D.†

For the past twenty years considerable interest has been directed to the etiology and treatment of pyelitis of pregnancy.

Insofar as this discussion is limited to the treatment of pyelitis of pregnancy, the subject may be sub-divided into various grades or degrees of the process —namely:

1. Mild pyelitis amenable to simple medical treatment.
2. Pyelonephritis.
3. Severe pyelitis which resists simple medical therapy.

In order to classify the discussion, reference first must be made to some facts concerning the etiology of the condition. Upon these facts the treatment is based. First, J. Hofbauer, in 1928, made extensive study of the etiology of this condition and found that in pregnancy the following process takes place: "Urinary obstruction in pregnant women is caused by certain anatomical conditions in the juxtavesical portion of the ureter and in the trigonum vesicae."

Hypertrophic changes in the musculature associated with hyperplastic changes in the connective tissue are essential factors in the narrowing of the lument of the lower part of the pelvic portion of the ureter. The constriction is still further accentuated by an encircling ring resulting from hypertrophy of the ureteral sheath, while engorgement of the vessels in the mucosa and dextrorotation of the uterus may act as contributory factors.

There was no demonstrable indication of an active inflammatory process or of remnants of a preceding inflammation in the ureteral wall in the specimens examined.

A moderate degree of hydro-ureter is a common occurrence in pregnant women. The hyperplastic and hypertrophic changes in the upper pelvic portion and in the abdominal portion of the ureter are less marked and the dilatation above the narrowed area of the juxtavesical portion occurs as a consequence of the structural peculiarities described.

Histological evidence tends to substantiate the occurrence of involution processes in the ureteral wall in analogy with the phenomena occurring in the uterus during the puerperium.

On cystoscopic examination, the entire region of the trigonum appears somewhat protruding and Mercier's bar particularly well marked. The recent studies of Hinman and Wasson emphasize the fact that recognizable urinary obstruction is favored by hypertrophy of the trigom with a prominent plica ureterica which would explain the observation made by Curtis that "several ounces of residual urine is frequently demonstrable during pregnancy."

While there occurs after labor, a gradual return of the kidney pelvis to normal in uncomplicated cases, persistence of both bacteria and dilatation of the ureter were found on re-examination of cases complicated by pyelitis, in a considerable number of cases. Stricture may occur in cases of longstanding infection.

After Opitz's presentation in 1906, the majority of writers began to accept the theory that the condition is primarily due to compression of the ureter, particularly the right one, between the uterus and the brim of the pelvis, followed by a dilatation of the ureter above; while the concomitant infection is interpreted as of either hematogenous origin or due to an ascending process. More recently, however, we are abandoning the pressure theory, as many cases of pyelitis occur in the early months of pregnancy when the idea of such a mechanism can hardly be maintained; and as studies of frozen sections from pregnant women at term make such an idea untenable; and furthermore that DeLee has stated the specific gravity of the uterus is the same as that of the other abdominal organs and such a conception is incompatible with the laws of physics.

Duncan and Seng, in 1928, concluded that ureteral dilatation and stasis call for hyperplasia of the muscle of the

*Read before the meeting of the Wyandotte County Medical Society, at Kansas City, March 12, 1932.

†Department of Urology.

ureter and that the stasis is, in the main, due to pelvic crowding and congestion associated with physiological changes in pregnancy.

Hence, in view of the foregoing, our rationale of treatment should be directed towards improving drainage, combating infection already present, and building up the patient's resistance to prevent reinfection.

In the mild cases, simply increasing the fluid intake will so increase urinary output that the infection will be readily overcome by a washing out process. It is customary to add a urinary antiseptic to the therapy in order to insure the result. Of the urinary antiseptics, urotropine coupled with acid sodium phosphate, acriflavin, and the newer uretone have been most frequently used. In our own cases, we have used urotropine gr. XV, t.i.d., a.c. and h.s. and sodium acid phosphate gr. XV., t.i.d., p.c. Smaller doses of the urotropine do not seem efficacious. All cases require absolute bed rest both to conserve strength and increase resistance and perhaps in a measure to relieve pelvic congestion.

In the treatment of pyelonephritis, one must bear in mind that an actual kidney lesion is present and in addition to treating the infection, limit the diet frequently to liquids until the nephritis has improved. Glucose administration by the intravenous route seems to be the best diuretic which can be tolerated.

The severe type of case, not amenable to simple therapy, as just outlined, should be promptly treated by more strenuous measures. The sicker the patient, the more urgent the need for ureteral drainage by cystoscopy. Many urologists seeing such a patient feel that the patient is too poor a risk and will wait until too late. The time to act should follow immediately after a reasonable trial of medical treatment has been tried. Failure to act promptly on failure of medical treatment frequently will result in miscarriage with death to the immature fetus, and in many cases, death to the mother as well.

The therapy consists in cystoscopy by the Brown-Buerger method and the introduction of ureteral catheters into the infected kidney pelvis. A lavage is then done with a weak antiseptic such as 1 to 2 per cent mercurochrome or 1-1000 silver nitrate. Two methods of procedure may then be followed—either withdrawal of the catheter and subsequently repeating the process, if necessary, or removing cystoscope and leaving the catheters in place, fastening them to the groin with black silk thread and a short strip of adhesive. They may be allowed to drain into a basin or may be attached to a bed bottle by rubber tubing. The more severe cases seem to do best with the latter procedure with a lavage twice daily, using a weak antiseptic for flushing out the kidney pelvis.

The following cases represent only a part of our work on this condition but serve to illustrate the treatment:

Name	Grav.	Symptoms	Side Affected	M. Gest	Therapy	Recov.
1. Mrs. S	3	Chills, fever 104	Left	7	Urotropine	5
2. Mrs. T	1	Chills, fever 102	Right	5	Urotropine	5
3. Mrs. H	1	Chills, fever 105	Right	6	Urotropine and Uretone	8
4. Mrs. L	1	Chills, fever 104 B. coli	Right and Left	6	Urotropine	7
5. Mrs. H	1	Chills, fever 102	Right and Left	4	Urotro. and Cysto.—single	7
		(Cystoscoped. Brown-Buerger passed, ureters, catherized with No. 5 cath. 5 per cent NaI injected. Bladder contained four ounces hazy urine. Blad. cap. 13 oz. Bladder mucosa clear. Capacity of left kidney pelvis 10 c.c. and right 100 c.c. Kidney function with indigo carmine on left 4 min. and 6 min. on rt. Heavy trace on left and faint on right. Flat plates: Angulation of rt. ureter at level of fourth lumbar.)				
6. Mrs. M	2	Chills, fever 102 Anemia	Left	6	Urotropine and Cystoscopy Indwelling cath.	

Case No. 6—(Cystoscopy: Brown-Buerger passed easily. No. 5 catheter passed into left ureter and immediately urine began to spurt—part was lost but 45 c.c. was recovered. Obstruction seemed to be in juxtavesical portion. Urethral catheter left and to be irrigated once daily with 1-1000 $AgNO_3$. The urine obtained showed 410 pus per cm.

CONCLUSIONS

The rationale of treatment in cases of pyelitis during pregnancy has been altered in the past five years through the

excellent work of many workers in both urology and obstetrics.

The severe cases should have adequate urological treatment promptly, when medical measures fail.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

The value of procedures for putting the lung at rest in the treatment of tuberculosis is established. The several methods used are pneumothorax, interruption of the innervation of the diaphragm or the muscles of respiration, removal of portions of the ribs, the insertion of foreign substances or structures between the ribs and pleura, and intrapleural pneumolysis. Recently, a new measure, scaleniotomy, has been suggested for obtaining surgical rest of the lung. Abstracts of two articles on this subject follow.

Scaleniotomy—A Preliminary Report

Scaleniotomy is the division of the fibres of the scaleni muscles for the purpose of decreasing the motility of the upper chest. This procedure was advocated by Kochs, Els and Jungersdorf in October, 1930, and independently by Gale and Middleton in July, 1931. After their preliminary work the authors felt that they had established apical rest satisfactorily and that the procedure may be a valuable aid, either in conjunction with phrenic exairesis, or when phrenic exairesis has failed and some measure of a relatively conservative type is to be attempted before the patient is subjected to a more radical operation.

MECHANISM OF SCALENIOTOMY

The scaleni are three muscles (sometimes four) of the deep cervical group. They arise from the transverse processes of the third, fourth, fifth, sixth and seventh cervical vertebrae, and are inserted by tendinous bands into the first and second ribs. The scaleni provide anchorage for the first three ribs so that the intercostal group may function on them. Paralysis of the scaleni results in a caudad (toward the posterior) movement of the upper three ribs and exaggerated outward movement of the costal margins on inspiration. This tends to immobilize the pulmonary apices.

Under local anaesthesia the scaleni are carefully dissected out and divided as near their insertions as possible. Injury to the subclavian artery and the lower cervical nerves must be avoided. (The surgical technic is clearly described by the author.) When the wound is closed there is a cavity about the size of a pigeon's egg, the severed edges of the muscle having retracted usually 1.5 inches. No bridging with muscle fibres was observed as late as six months after operation.

"The results obtained from phrenic exairesis depend upon the changes in the relationship of one part of the diseased lung to another; and the relaxation and rest. The amount of improvement is not dependent entirely upon the height to which the paralyzed diaphragm rises in the thorax, although in the main this is so. Some improvement may usually be expected from phrenic exairesis in lesions throughout the lung, especially in the lower three-fourths. In the more remote apical lesions, not so much improvement may be hoped for, and it is in these cases that scaleniotomy may be expected to change the anatomy, and the relationship of diseased parts to each other, and rest the area involved.

"In all our cases, as in the cases reported by Gale and Middleton, a marked reduction in the respiratory excursion, of the upper part of the chest was noted, due to decreased intercostal movement; and, when the combined operation was done, there was no increased upper intercostal movement, so often seen when the phrenic nerve alone is blocked or evulsed.

"When scaleniotomy is combined with phrenic exairesis, upper as well as lower lung lesions may be expected to improve.

"When scaleniotomy alone was done, very little reaction occurred; three of the cases ran fever for one week, and in two the pulse-rate was increased for two weeks. No complication has occurred, nor has any deformity resulted. The results in these cases are based on their clinical records and clinical progress."

The results in a series of 52 cases were as follows:

Of 20 cases in which a phrenic exairesis had been done previously, and in which improvement had stopped, ten were improved and ten not improved.

Of 29 cases in which scaleniotomy was combined with phrenic exairesis, 19 improved and ten did not improve.

Of 3 cases in which scaleniotomy only was done, two improved definitely.

Scaleniotomy in the Treatment of Tuberculosis, Meade, Clyne, Am. Rev. of Tuberc., December, 1932.

Scaleniotomy As An Adjunct to Collapse Therapy

Fisher discusses the merits of the various methods of collapse therapy and comments on the results of 31 scaleniotomies done at Waverly Hills Sanatorium. Eighteen of these had had phrenic exairesis from six months to three years previously without obtaining satisfactory contraction of the lesion. The remaining 13 patients were subjected to combined phrenicectomy and scaleniotomy. In every case the inspiratory elevation of the ribs in the upper portion of the hemithorax has been markedly reduced or eliminated as noted on inspection and fluoroscopic examination. By actual measurements in comparable *x*-ray films, the caudad drooping on inspiration showed as much as a 2-cm. narrowing in the upper hemithorax. "A downward pull on that side, accompanied by a sense of weight over the upper half of the chest, was voluntarily noted by practically every patient in the series. Cough and expectoration tended to show a moderate increase the first day or two, later subsiding or disappearing altogether. Likewise, moderate dyspnoea was temporarily noticed by a number of patients, as indicative of a transitory reduction of vital capacity. In the patients who had had a prior phrenicectomy these symptomatic effects could definitely be attributed to scaleniotomy alone."

Other favorable results noted include release of tension on cavity walls, the ability to sleep without being awakened by a strangling cough, ability to control cough, no recurrence of haemoptysis in two patients in whom it had been frequent before, normal temperature in one patient with fever of long duration. Reduction with clearing throughout the lesion was noted in several.

SUMMARY

The author summarizes as follows:

"Scaleniotomy affords a definite adjunct to collapse therapy and deserves consideration, along with phrenicectomy, in a certain proportion of cases.

"The effect is probably more nearly that of relaxation rather than of true compression, although a negative sort of compression is obtained by eliminating the upward, inspiratory pull exerted by the first and second ribs upon the apex of an adherent lung. Slight narrowing of the upper hemithorax has been shown.

"Striking improvement may be produced by scaleniotomy in a relatively short time, although progressive gains may reasonably be expected to continue over an extended period.

"In a series of 31 cases, some persistent cavities having lung tissue around them have been closed or markedly reduced in size within a very few weeks. Others which were subpleural have been definitely flattened by costal drooping.

"Symptomatic improvement begins immediately in most cases. Relief from cough and decreased expectoration have been consistent effects. Prevention of recurrent haemoptysis and rapid reduction of temperature to normal have been noted."

Scaleniotomy as an Adjunct to Collapse Therapy, Lincoln Fisher, Am. Rev. of Tuberc., December, 1932.

———℞———

Pol N. Coryllos, New York (Journal A.M.A., Feb. 18, 1933), emphasizes the fact that the basic principle in the treatment of tuberculosis in all its forms is rest. More especially in pulmonary tuberculosis, complete and prolonged bed rest is advised in order to "immobilize the lungs" and "favor healing by fibrosis." During the past years, a number of surgical procedures have been adopted for reinforcing rest by mechanical splinting of the diseased lung, as pneumothorax, phrenic exeresis or thoracoplastic collapse. If for any reason conditions of anaerobiosis are created in a tuberculous area of the lung or of any other organ, tubercle bacilli could not continue to thrive and grow. The lesion will remain stationary and then regress; the amount of bacilli and their toxic products will rapidly decrease. The tubercle bacillus is a strict aerobe requiring large amounts of oxygen for continuation of life and growth. "Rest" and "collapse therapy" produce in the lung decrease or suppression of oxygen. The evolution of tuberculous cavities can be explained by the condition of their "draining bronchi." Development of fibrosis is closely related to anoxemia.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

JOHN A. DILLON, M.D.
Larned, Kansas

My dear Boy:

Am glad to know you are comfortably located in Kansas City and must agree with you that there is some logic in your contention that you now need a car as you are forty blocks from the hospital. I have pondered over this problem considerably since you have called it to my attention and after a prolonged discussion with your mother we have arrived at what appears to us to be a fairly sane and happy solution of the situation. As we understand it the country is fairly well settled down there and you probably will have no great difficulty in securing a room within four or five blocks of the hospital. The ordeal of moving will not be strenuous as you can take your suitcase on the street car and no doubt some friend will volunteer to carry your golf clubs, pipes and cigarettes. Your consultation work will also be limited for a time. We are always glad to have you refer your problems to us and feel that once more we have solved the auto question for you. No doubt if an emergency existed we might be able to finance a cheap car. I would not fear the economic feature of the original deal so much as I would the problem of endowment.

Past observation has taught me that a car without endowment has been a very serious handicap to many impecunious young men. Besides your brother over at Lawrence who is compelled to struggle manfully two blocks back and forth to class rooms twice a day would feel he had been unjustly discriminated against should you be given a car. Speaking of student hardships I was very much interested in A. B. McDonald's article in the Sunday Kansas City Star a few weeks ago. I am wondering if you read this and fully appreciated the hardships some students go through in order to get an education. The lad who kept house and slept in the old Ford car and the fellow who marketed cock roaches in order to pay expenses excited my admiration. It is the first instance I have known of any one commercializing cock roaches and best of all there are still plenty left for everyone. That these boys and girls are willing to sacrifice and economize in order to get through college must certainly raise them in the estimation of their fellow students and teachers. I think the greatest thrill I received from reading this article was the statement one student made, "And everyone treats me like a millionaire." I had one of my infrequent feelings of pride for the institution that would foster a spirit where the poor boy feels he is treated like an equal by others more favored. That kind of an institution and that kind of spirit is bound to encourage and inspire all who come in contact with it. And who can say these young people who are so financially cramped are not after all the fortunate ones? They most certainly appreciate the education acquired under such difficulties and make the most of their time and opportunities while too many of those more fortunately provided fritter away their time and talents.

At this writing we are shivering under a temperature of 23 degrees below zero or at least that is what our local thermometer records. We aim to have one that shows at least five degrees below actual temperature so as not to be outdone by envious neighbors. Next to a frank discussion of liver and kidney functions nothing offers better material for conversation than the excursions of the weather thermometer. It is the one topic that always thrills the old timer and even after memory becomes clouded he can refer to blizzards, tornadoes and hot winds with wonderful accuracy. Along this line I am carried back to my early days of practice in North Dakota in the old horse and buggy days. A temperature of 28 or 30 below zero was not uncommon and in making long drives across those northern prairies I dressed as do the present members of Byrd's Antarctic expedition. Even in the heaviest of wearing apparel and with a well functioning buggy stove it was very difficult to keep comfortable in the face of those winds that swept down from Canada. But being young and ambitious and with good circulation an occasional frosted ear or nose was about the only casualty.

However, it meant that many of my nights were spent in the homes of patients rather than risk the long drive back in a bad snow storm. And I must state the doctor was always welcome and entitled to the best in the house. Seldom was there a spare bed but there was always one that contained a tow headed boy or two who could be shoved out of his warm place to make room for the doctor. A familiar ammoniacal odor nearly always taught me to accept these hospitalities with fear and misgiving and long experience had shown me the nocturnal weakness of my juvenile bed fellows. Eugene Field has eulogized this frailty of youth in wonderful verse which no doubt you have read. You will escape these experiences as it seldom will be necessary to stay all night in the country. With high powered car comfortably heated there will be no actual physical discomfort. You will not have to alternately ride and lead a lunging horse through snow drifts up to his belly as I have done. All these things you will not have to go through, but I am wondering if you will get any more pleasure out of your work than did we of the older times. At any rate I am not wasting a great deal of sympathy on the man in general practice today.

I see by the papers your athletic authorities are quite disturbed at the conduct of the students during basket ball games. The booing and hissing of referees when making decisions against the home team is considered poor sportsmanship. Somehow I feel they are entirely right in this. In fact I would be tempted should I see you exhibit a tendency of this kind to take you by the ear and lead you out from among your moron partizans. The poor sap that cannot stand to see his home team defeated in any line of sport without frothing at the mouth will probably meet the problems of life with just as poor grace. So I would advise that when you or any of your friends find your frenzied partizanship becoming uncontrollable you may get relief by going over to Ninth and Walnut and stepping on the toes of a policeman. Have you ever noticed how easy it is to control your temper when a flat foot is lounging near?

Remember this advice is backed up by experience. Be a square shooter in sports and be big enough to appreciate the ability of the other fellow or the other team.

Love,

DAD.

P. S.—I rather suspect your brother Dave at Lawrence has not learned of the 10 cent meals being served over there.

———R———

THE PHYSICIAN'S LIBRARY

OFFICE SURGERY. Fenwick Beekman, M.D., visiting surgeon, Bellevue Hospital; Visiting Surgeon, Hospital for the Ruptured and Crippled; Consulting Surgeon, Lincoln Hospital; Clinical Professor of Surgery, New York University and Bellevue Medical College. 94 illustrations. J. B. Lippincott Company, Philadelphia. Price $5.00.

A very well written volume prepared rather for the general practitioner than for the surgeon, describing in detail with good illustrations the surgical conditions met with in office practice and the procedures for their correction. The importance of adequate treatment of the so-called minor conditions is stressed with reference to possible serious consequences. There is no attempt made to outline graver surgical treatment of diseases of the chest or abdomen. The chapters on fractures, dislocations and sprains are well written with especial emphasis on the emergency treatment only.

The book is beautifully bound, the print is large and easily read and the subjects are handled in a clear concise manner without excessive verbiage.—C.E.J.

ASTHMA, HAY FEVER AND RELATED DISORDERS. A Guide to Patients. Samuel M. Feinberg, M.D., F.A.C.P. Assistant Professor of Medicine and Attending Physician in Asthma and Hay Fever, Northwestern University Medical School; Attending Physician, Cook County Hospital. Lea and Febiger, Philadelphia. 124 pages, illustrated. Price $1.50 net.

A very timely small book written in language that the layman can understand, with explanation of the entire subject of allergy. A very valuable little book and one that every allergic individual should read. The diagnosis, pro phylaxis and treatment is explained as

well as details as related to foods and foreign proteins.—J.L.L.

CHILDREN'S TONSILS IN OR OUT. Albert D. Kaiser, M.D., Associate Professor of Pediatrics, University of Rochester Medical School; Chief Pediatrician, Rochester General Hospital; Pediatrician Rochester Dental Dispensary. Illustrated. J. B. Lippincott Company, Philadelphia and London. Price $5.00.

This is a very excellent monograph on adenoids and tonsils. The chapters on physiology, bacteriology and pathology are particularly of value and have furnished me information better to explain to parents why their child's tonsils are causing trouble, even though the child gets along all right most of the time.

Every chapter has its value. The first impression may be there is too much reading matter but there is so much of value in all of it, and the information is so well arranged and presented, there is no labor in reading the book from cover to cover.—W.K.H.

CALCIUM METABOLISM AND CALCIUM THERAPY by Abraham Cantarow, M.D., Instructor in Medicine Jefferson Medical College; in charge of Laboratory of Biochemistry, Jefferson Hospital and Assistant Physician Philadelphia General Hospital. Foreword by Hobart Amory Hare, B. Sc., M.D., LL.D. Late Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia. Price $2.50, 252 pages. Lea & Febiger, Philadelphia, 1933.

A very complete and well written summary of the subject of calcium, its use, distribution, absorption in normal and abnormal individuals. The subject of vitamin D and its effect upon calcium absorption, the relations to other blood chemical changes, the relationship of the different hormones are discussed. An interesting chapter is devoted to the disturbances of calcium level and partition, dealing with the alteration of calcium in the different diseases. Also, treatment is covered in this book with special reference to the use of calcium in tetany.—J.L.L.

PRACTICAL OBSTETRICS for Students and Practitioners: P. Brooke Bland, M.D., Professor of Obstetrics, Jefferson Medical College; Chief Obstetrician, Jefferson Medical College Hospital, Philadelphia, Pa.; assisted by Thaddeus L. Montgomery, M.D., Associate in Obstetrics, Jefferson Medical College, Philadelphia, Pa. Illustrated with 516 engravings, including 21 colored plates. F. A. Davis Company, Philadelphia. Price $8.00.

This book is 7 inches by 10 inches, of 730 pages, clear type, and unusual and excellent as regards the following: There are 516 excellent illustrations; there are many colored plates, some double sheet, portraying the correlation of ovarian function with the changes in the endometrium during menstruation and pregnancy; also the influence of the various hormones on the process of menstruation.

There is an excellent article on the biological tests for early pregnancy and, as well, on sterilization of a female; a very full chapter on disorders and diseases of the newborn; a very concise chapter on obstetrical jurisprudence, including some of the laws of the various states. There is a section, not alone a bibliography, but a reference for general reading on twenty-five special topics, such as anatomy, physiology, pleural pregnancies, diseases of the ovum, anaesthesia, etc.

To me the illustrations alone are worth the price of the book.—W.H.W.

PATRONIZE JOURNAL ADVERTISERS

RESOLVED by the Council of the Kansas Medical Society that the members of our society be urged to buy medicinals, instruments and other supplies from advertisers in our Journal in preference to similar articles sold by those who do not advertise.

The above resolution was adopted by unanimous vote at the mid-winter meeting of the Council, January 17, 1933.

———R———

According to Arthur H. Curtis, Chicago (Journal A.M.A., Dec. 10, 1932), adhesions of the anterior surface of the liver are a not infrequent complication of gonorrheal disease of the fallopian tubes. These adhesions apparently develop during the acute stage of the pelvic infection. The differential diagnosis of pain in the right upper quadrant of the abdomen in women should include consideration of adhesions of the anterior surface of the liver. If the cause of the pain in the right upper quadrant is difficult to determine, a pelvic examination may serve to differentiate. Conversely, in the presence of a pelvic inflammatory mass of unknown etiology, a history of pain in the right upper quadrant, in the region of the liver, may be of material moment in the differential diagnosis of the etiology of the pelvic lesion.

THE JOURNAL
of the
Kansas Medical Society

EARLE G. BROWN, M.D. - - - - Editor

ASSOCIATE EDITORS—R. T. NICHOLS, L. B. SPAKE, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, H. N. TIHEN, C. C. STILLMAN, ALFRED O'DONNELL, H. O. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

Subscription Rates: $2.00 per year. 20c single copy. Advertising rates furnished promptly on application.

LIST OF OFFICERS—President, J. D. Colt, Sr., Manhattan; Vice President, J. F. Gsell. Wichita; Secretary, J. F. Hassig, Kansas City; Treasurer, Geo. M. Gray, Kansas City.

COUNCILORS—First District, R. T. Nichols, Hiawatha; Second District, L. B. Spake, Kansas City; Third District, E. C. Duncan, Fredonia; Fourth District, O. P. Davis, Topeka; Fifth District, J. T. Axtell, Newton; Sixth District, H. N. Tihen, Wichita; Seventh District, C. C. Stillman, Morganville; Eighth District, Alfred O'Donnell, Ellsworth; Ninth District, H. O. Hardesty, Jennings; Tenth District. I. B. Parker, Hill City; Eleventh District, C. H. Ewing, Larned; Twelfth District, W. F. Fee, Meade.

The Journal of the Kansas Medical Society is not responsible for statements, methods or conclusions presented in any article other than by the editorial staff.

Authors will submit copy, typewritten on standard size paper and double spaced. Copy not prepared in this manner will be returned, if convenient. THE COST OF ILLUSTRATIONS WILL BE DEFRAYED BY THE AUTHOR.

EDITORIAL

NEW RADIO SERIES

E. R. Squibb and Sons on January 8, presented the first of a series of half-hour radio programs in keeping with the traditions of its founder. This program is on the air each Sunday afternoon at 3:30 over the red network of the National Broadcasting Company. It features Frank Black and his orchestra, the Revelers, and as the high spot a dramatization of gripping moments from the history of medicine.

These presentations of music and interesting dramatic episodes are designed to appeal to every type of radio listener. The announcements emphasize that only through a sufficient number of properly trained physicians can a community meet its responsibility for the care and prevention of illness and the protection of health. Impressive reasons are given as to why the use of the family physician is a good way to keep down the costs of competent, sympathetic and understanding general medical care.

Invite your patients to listen to this most interesting program.

MOTTLED ENAMEL

Mottled enamel has been a subject of investigation for many years. Passed Asst. Surg. J. M. Eager of the United States Public Health Service, stationed in Naples, Italy, described the condition in an article which appeared in *Public Health Reports* in 1901.[1] Doctor Eager detected the condition among Italian emigrants, particularly those from Pozzouli, a community about five miles from Naples. The defect was called "Denti di Chiaie," after Professor Stefano Chiaie, who was the first to describe the condition. From the description given by Doctor Eager it was recognized the same enamel defect was prevalent in certain areas of the United States and other countries. Further information, however, was not available until 1916 when Doctors G. V. Black and Frederick S. McKay published a series of joint articles on the subject in *Dental Cosmos*. Black and McKay were the first in the United States to make an exhaustive study of the defect and to publish their results. The term "mottled enamel" was first used by Black.

Studies of the occurrence of mottled enamel in Kansas have been made by the Division of Sanitation of the state board of health for the past four years. The reason for such studies was to determine, if possible, the relationship between this dental defect and the source of the drinking water supply and also as to the prevalence of the defect in the state.

Mottled enamel is a defect of the permanent teeth, and manifests itself by a

1. Nov. 1, 1901. pp. 2576-2577.

chalky white spotted appearance of the enamel instead of the normal translucent appearance. It is noticeable as soon as the tooth erupts into the mouth, but since the defective chalky white enamel is more liable to staining than the normal enamel, discoloration soon occurs and the teeth may become disfigured with areas shading from buff to dark brown. Mottled enamel is rarely found on any of the temporary teeth. A few cases have been observed in which there was a slight flecking of the typical white spots on the enamel of the temporary molars, but the brown stain has never been observed.[2]

Recently the fact has been established that mottled enamel results from the presence in the drinking water of comparatively small amounts of the chemical element fluorine. The presence of fluorine in the water supplies of certain affected communities was first reported by H. V. Churchill of the Aluminum Company of America at the meeting of the American Chemical Society in the spring of 1931. The Smiths and Lantz at the University of Arizona reported they had produced mottled enamel in white rats by the addition of the fluorine salt to the diet and had obtained the same result by using a concentrate of the water supply from a community in Arizona where mottled enamel was endemic.[3] Smith and Smith report the evidence indicates that waters having a fluorine concentration varying from 2.0 down to 0 p. p. m. do not interfere with normal development of the enamel to the extent of causing observable mottled enamel.[4]

Fluorine exerts its effect while the enamel is in process of formation. The enamel of the permanent teeth is formed during childhood, therefore is subject to injury from fluorine containing waters. The enamel cannot repair itself and consequently the injury is a permanent one. On the other hand, if the enamel is formed while a child resides in a community not afflicted with mottled enamel, the defect apparently will not develop if change of residence is made to a community using fluorine-containing water.

The damage to the enamel is so great dental science has not as yet developed a method of repair. Apparently, the affected teeth are more liable to decay than normal teeth and when a cavity appears in such teeth the dentist experiences great difficulty in making a filling hold on the defective enamel.

There are at least four areas in the state where mottled enamel is definitely endemic: Chetopa, Utica, LaCrosse and Bazine. The city water supply at Chetopa is obtained from two deep wells (one 8 inches in diameter and 1,100 feet deep, the other 6 inches in diameter and 1,240 feet in depth). In the other communities, the water is obtained from two sources: shallow and deep wells. The water from the shallow wells is usually hard, but is not always available in adequate quantity and consequently deep wells are drilled into the Dakota Sandstone. This source is usually abundant and fairly soft, but highly mineralized and in certain localities contains fluorides.

Through the cooperation of practicing dentists in the four communities, surveys were made of the occurrence of mottled enamel in the school children. It was determined among the Chetopa children where 182 pupils were examined, that 69 were afflicted with the mottled enamel defect. In each case, every individual of the afflicted group gave a history of having used since childhood, the city water which contains fluorides. On the other hand, it was found that the 113 children having normal teeth had used other water supplies during childhood, or had

2. P.H.R. No. 48, Nov. 28, 1930.
3. U. of Ariz. Tech. Bull., No. 32, June 10, 1931.
4. U. of Ariz. Tech. Bull., No. 43, July 15, 1932.

moved to Chetopa and begun use of the city water supply after eruption of the permanent teeth. The results of the survey in the other three communities were similar to that in Chetopa.

To date, the Division of Sanitation through the Water Laboratory has completed fluorine determination on water samples from 88 city supplies and three have been found to contain more than the 2 p. p. m. of fluorine set by the Arizona workers as the upper limit for absolute safety from mottled enamel. The fluorine content of additional supplies will be determined as time permits.

The only hope for the control of mottled enamel is prevention, rather than its cure. The cause being known, it is now possible to definitely state the defect may be completely prevented by changing to a water supply containing little or no fluorine. In a community where the water contains more than 2 p. p. m. of fluorine this change should be made for every child who does not have his complete set of permanent teeth, and should include not only the drinking water but also the water used in the preparation of the food. If the enamel of some of the teeth has already formed, the change will benefit only those teeth whose enamel has not yet been laid down.

PRINCIPLES AND POLICIES OF MEDICINE

Dr. William A. Pusey in his discussion of "The Principles and Policies of the Medical Profession in Its Public Relations"* stated medicine in effect is the trustee of society in matters relating to disease and injury. Its policies, therefore, must always be governed by this fundamental fact. Medicine, is responsible for the conduct of one of the most important of civilization's material interests. To fulfill this obligation, medicine must attract the best men and its services must be available to all.

Medicine is a business. Business in controlling medicine subjects it to lower standards by placing it on a competitive basis, the purpose being to secure medical services at the lowest rates possible.

Medicine has three definite responsibilities: (1) to perform the service of the practice of medicine; (2) to promote preventive medicine and the public health, and (3) to foster research and increase knowledge. Medicine's concern about its own affairs must be for the individual physician because the competency of the profession as a whole depends upon competency of the individuals who compose it.

Medicine does not offer wealth; that primarily is not the objective of the physician. The physician, however, has the right to ask that medicine may hold out to him, if reasonable success be obtained, material comforts for himself and his family that only a liberal competency can provide. To attract to it the types of men it needs, medicine must offer this prospect.

Organization is necessary, in order that medicine may use its united strength in meeting its responsibilities. The policies must be intelligent; devoted only to the interests of the profession which are in accord with sound policies. It must be capable of change in its policies, as changing conditions indicate the wisdom of such action.

Governmental practice takes away freedom of opportunity and, by encouraging quantity practice, tends to lower the quality of practice. There are overwhelming objections to any type of practice which interferes with the free choice of a physician on the part of the patient. Corporation practice should conform to the methods and traditions of conduct

*Bull. A.M.A., December 1932.

expected of reputable individual physicians.

Dr. Pusey summarized the principles and policies as follows:

Principles: 1. Medicine is the trustee of society in the care of the sick and injured; its policies must always be governed by this fundamental fact.

2. The good of society must be the sole aim of its public policies and the good of the patient the first consideration in the relations between physicians and patients.

3. Medicine's first responsibility must be to see that its services are available to all men.

4. The public interest demands the most competent medical profession possible. Medicine must be an attractive profession to compete successfully with other professions for the ablest young men.

5. In the sense that every calling from which a living must be gained is a business, medicine is a business; it must accept the competitive conditions of practical life but, as a profession of high ideals, it must seek to prevent selfish commercialism.

6. Experience has shown that the vast majority of disease conditions afflicting man can be most satisfactorily and economically diagnosed and treated by a competent individual general practitioner.

Responsibilities: 7. The services of medicine include (a) the practice of medicine; (b) the promotion of preventive medicine and the public health; (c) the fostering of research and the increase of knowledge.

8. Medicine's chief concern must be for the individual physician; the service rendered by individual physicians in the aggregate constitutes the great bulk of medical service. The quality of service which is given depends on the competency of the individual physicians who give it.

Rights: 9. The medical profession asks for its practitioners: freedom of opportunity to develop to the limit of their individual capacities.

10. It asks a career of independence under conditions of free and dignified competition.

11. It asks remuneration sufficient for reasonable comfort for the individual and for his family.

12. In its ideals of independence, medicine has a right to control its own affairs. Its history of capacity and altruism justifies this claim.

EDITORIAL COMMENT

Post and Cooney summarize the literature on the accidental transmission of syphilis by blood transfusion and report a case. *(Jour. A.M.A.*, Jan. 28, 1933. pp. 258-59.)

Anderson describes the removal of a tattoo mark through the injection of 50 per cent tannic acid solution and the application of pure stick silver nitrate. *(Calif. and West Med.*, Feb. 1933.)

At a called meeting of the Executive Committee held in the Journal office in Topeka, February 28, publication of FOLKS was suspended with the March issue and subject to final action by the House of Delegates.

Studies made at the Rocky Mountain spotted fever laboratory have proven that tularemia may be transmitted through the bite of a mosquito, although the part played by the insect in carrying the disease is purely mechanical.

The Federal Food and Drug Administration caused the seizure in January of 84 consignments of food and drugs found to violate the national pure food and

drug law. One seizure was of 969 dozen tubes of catgut ligatures. The ligatures were alleged to be sterile, but examination proved that a part of the consignment was not.

An *Associated Press* dispatch under date of February 6 states Lester J. Tilton and Harry de Joannis, who formerly operated a cancer clinic at Clinton, Iowa, and claimed cures by their application of a black paste, were sentenced to prison terms of one to five years and fined $2,000 each, in the court of Judge Rudolph Desort in Chicago.

The Commonwealth Fund has sponsored a state wide study of lobar pneumonia in Massachusetts. The study was undertaken in January 1931, and will continue for five years. The purpose as originally outlined was to make available to all cases of lobar pneumonia the benefits of prompt clinical and bacteriological diagnosis and early treatment with antipneumococcic serum.

F. J. Cullen gives a rough outline of the work of the federal Food and Drug Administration in connection with food and drug products that are especially interesting to the physician. He emphasizes the care that is exercised in attempts to assure the physician of potent drug products for use in his practice, and points out the protection attempted to afford the layman against fake "patent medicines." *(Jour. A.M.A.,* January 28, 1933.)

During a period of nineteen years, 37 cases of primary malignant tumor of the foot were observed among a total of 10,495 cases admitted to the State Institute for the Study of Malignant Diseases (New York). In these 37 cases, melanotic sarcoma was most common. Seventeen of the lesions fell into this category, 10 of which were on the sole or heel of the foot. Squamous cell carcinoma of the skin was noted in 8 instances; sarcoma of the soft tissues, 6; bone sarcoma, 4; adenocarcinoma, 1 and basal cell epithelioma of the skin of the foot, 1.

The Council on Medical Education and Hospitals has recently circularized superintendents of hospitals registered by the American Medical Association as well as presidents of colleges approved by the Association in regard to an announcement of the Illinois College of Physicians and Surgeons which includes the following statement: "Courses offered and requirements for graduation are class 'A' requirements." The letter calls attention to the fact that the Council on Medical Education and Hospitals is the only body which has ever rated medical schools as class A, and it could be implied the above named school conforms to the standards prescribed by the Council. Such an inference is wholly unwarranted, as the "institution is conducted by a group of chiropractors and does not even remotely approach the standards of a class A medical school."

The recent discussion in the Letter Box column of The News on the paying of doctor's bills lends peculiar interest to the action of the Atlanta physician who burned his account books representing $81,362 due him and told his patients to start all over again. Not all doctors are financially able to do that; obviously Dr. Brown of Atlanta is able, else he would have kept the books with a hope of collecting something sometime. Therefore his example should not be used to embarrass the hundreds of unselfish and faithful members of the profession who, whatever their patients may think, must collect their fees to pay rent, taxes, assistants, and all other ordinary expenses. Scarcely one of us but can recall an instance of self-sacrificing loyalty by doctor to patient. The doctors earn what they get, even if they do not get what they earn. *(The Detroit News,* December 5, 1932.)

PROPOSED LEGISLATION

S. 52—Passed Senate February 10. House Committee on State Affairs amended levy to one-twentieth, and balance of funds remaining be returned to general fund, and bill be passed as amended. On General Orders, March 1.

S. 146—Annual registration of nurses. Passed Senate on February 13.

S. 174—Committee on Public Health recommended bill be not passed.

S. 181—Passed the Senate, March 2.

S. 195—In Committee on Assessment and Taxation, March 2.

S. 213—Committee on Public Health recommended bill be passed. On General Orders, March 3.

H. 3—Passed House, February 7. In Senate Committee on Public Health, March 2.

H. 6—Passed House, January 20. Passed Senate as amended, February 20. House accepted amendment on February 27. Approved by Governor Landon, March 6.

H. 74—Committee on Education recommended bill be not passed.

H. 110—Committee on State Affairs recommended bill be not passed.

H. 111—In Committee, Cities of Second Class, March 2.

H. 153—Committee on Hygiene and Public Health recommended bill be not passed.

H. 181—In Committee on State Affairs, March 1.

H. 198—Passed House on February 6.

H. 295—Passed House, February 6. Senate Committee on Education recommended bill be not passed.

PROPOSED LAWS INTRODUCED SINCE FEB. 3

S. 238—Senator Friend. Authorizes any city of the second class to levy an annual tax of not to exceed .5 mill for the support of a hospital acquired in accordance with R. S. 12-1615, and if city becomes city of first class, levy may be continued. (In Committee, Cities of Second Class, March 1).

S. 239—Senator Todd. Provides that in the distribution of the funds of a decedent's estate, hospitalization expenses during the last illness and funeral expenses shall have priority over all other claims. Claims on account of medical services are to be subordinate to the claims above noted but are to be coordinate with wages due servants and the expense of administration and precede all other claims. (Committee on Judiciary recommended amendment in first claim "court costs not to exceed $25" and funeral expenses "not to exceed $150," and then bill be passed). On General Orders, March 1.

S. 272—Senator Skovgard. Provides cities of the first and second class and school boards of school districts at their option may provide for free dental inspection annually for all school children. (Committee on Education recommended bill be not passed).

S. 291—Senator Logan. Provides that jury of four with one physician shall hear insanity cases; person in question must be present. Provides *unless such insane person be a minor and have a competent natural guardian residing in this state, the court shall appoint a guardian of the person of such insane person, which guardian shall serve without bond.* (Committee on Judiciary recommended the bill be passed). Passed the Senate February 27. In House Committee on Judiciary, March 1.

S. 292—Senator Logan. Provides for sterilization of certain persons in state, penal and correctional institutions when the superintendent certifies to the governing board and provided notice has been served on such inmate and his or her natural or appointed guardian of the time and place of a meeting and hearing at least thirty days prior thereto. (Committee on Judiciary recommended bill be passed). Passed the Senate, February

27. In House Committee on Judiciary, March 2.

S. 302—Senator Todd. Provides repeal of the law relating to county asylums and bond issues in counties of over 110,000 population. (Committee on Federal and State Affairs recommended bill be not passed).

S. 314—Senator Warren. Raises the statute of limitations from three to fifteen years. (Committee on Judiciary recommended bill be not passed).

S. 394—Senator McCarthy. Provides for a tax of one mill for the care and hospitalization of the poor in cities of the second and third class. County commissioners or commissioners of cities empowered to aid in support of any hospital owned or operated by any city or other municipality or charitable or nonprofit corporation which will receive and care for without charge and extend charitable aid in the medical or surgical treatment of indigent persons. (In Committee on Assessment and Taxation, March 2).

S. 417—Senator Todd. Provides in counties with a population of more than 110,000 population and less than 135,000, coroner shall not be elected, but duties shall be performed by sheriff or one of his deputies. (Committee on Federal and State Affairs recommended bill be not passed).

S. 458—Senator McDonald. Provides no patient shall be admitted to any dispensary of the University of Kansas school of medicine, unless he is certified by a qualified doctor of medicine as being unable to pay for medical services. No charges whatsoever shall be made to any resident of the State of Kansas who is thus admitted for any services including investigative or therapeutic. (In Committee on Public Health, March 3).

S. 465—Senator Stauffer. Provides any person applying for a marriage license must file with the probate judge certificate issued by a legally qualified and licensed practitioner of human medicine of the State of Kansas, that applicants have been examined by him within the next preceding 30 days and found free from mental and venereal disease. (Committee on Judiciary recommended bill be not passed).

S. 498—Senator Bateman. Provides for annual registration of doctors of medicine with the secretary of the board of medical registration and examination; annula fee of one dollar. Also provides representation on board of different schools of practice to be as nearly possible in proportion to their numerical strength. (In Committee on Public Health, March 2).

S. 548—Senator Benson. Provides local health officers shall not make inspection of school buildings, grounds, or of the public health of the children except upon request of the local school board. (In Committee on Public Health, March 2).

H. 319—Mr. Blood. Empowers counties of more than 110,000 population to construct, maintain and operate a county hospital for care and treatment of indigent sick; any physician or surgeon licensed to practice medicine in Kansas or any dentist regularly licensed, be permitted to treat such patients. (Committee on State Affairs recommended "practitioner" be substituted for the word "physicians"; and hospital treatment be substituted for "medical or dental attention," and the bill be passed). On General Orders, March 2.

H. 349—Mr. Sargent. Same as S. 239. (Committee on Judiciary recommended amendment funeral expenses not to exceed $150 and bill be passed). Passed the House, February 21.

H. 431—Companion bill to S. 498. Passed the House on February 21. Senate Committee on Public Health recommended bill be passed. On General Orders, March 3.

H. 467—Mr. Cox. Allows no revocation of hospital permit from approved list by the Crippled Children's Commission unless a hearing is had. (In Committee on State Affairs, March 2).

H. 472—Mr. Robinson. Prohibits of-

fering for sale or selling any medicine, drug, or poison by means of a vending machine. (On General Orders, March 2).

H. 517—Dr. Blount. Amends the laws relating to the practice of dentistry by providing for "dental hygienists," for registration, license fee and rules and regulations governing them. (On General Orders, March 2).

H. 519—Committee on Hygiene and Public Health. Provides that in the event immediate sterilization be deemed advisable (of certain patients confined in state institutions) in order that the patient may be paroled or discharged without unnecessary delay, and a request to this effect signed by the patient and the guardian is presented to the superintendent, said operation may be performed without waiting for a regular meeting of the board. (Passed the House, February 20). In Senate Committee on Public Health, March 2.

H. 533—Mr. Riegle. Provides that any hospital supported in part or in whole by a city, county or by public funds which can secure the services of a specialist in the line of practice needed shall be approved by the Crippled Children's Commission. (In Committee on State Affairs, March 2).

H. 629—Mr. Hayes. Permits regularly licensed physician to prescribe liquor for medicinal purposes and pharmacist to fill such prescription. (Committee on Judiciary recommended bill be not passed).

H. 728—Committee on Hygiene and Public Health. Provides that licensed practitioners of certain professions affecting the public health, must use their professional degree after their name if the term "Doctor" is used. (On General Orders—Committee of the Whole—March 2).

H. 740—Committee on Hygiene and Public Health. Relating to the practice of medicine and surgery and the healing arts in tax exempt hospitals in the State of Kansas.

Section 1. From and after the passage of this act, all persons licensed to practice any of the healing arts under the laws of the state of Kansas, are hereby authorized to practice such profession in any tax exempt hospital in the State of Kansas: Provided, That this act shall not be construed to permit the practice of medicine or surgery or the healing arts by any physician, surgeon, osteopath, or chiropractor or any person not duly licensed to so practice.

Sec. 2. Any person in charge of a tax exempt hospital within the state of Kansas, or any member of a governing board of such hospital who refuses to permit a doctor licensed to practice his profession in such hospitals, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in a sum not less than $50.00 and not to exceed $500.00, or by imprisonment in the county jail not to exceed six months, or by both such fine and imprisonment.

(Second reading, Committee of the Whole, March 2).

—B—

BOOTLEG MILK

Purity of milk supply, sometimes taken for granted, is becoming questionable under present conditions, with farmers in some sections bootlegging raw or improperly pasteurized milk into cities. (See editorial J.A.M.A. Nov. 5, 1932).

This is particularly unfortunate, as every physician knows, in respect to infant feeding.

Since 1921, when S.M.A. was first offered to the medical profession, it has been made only from fresh milk of the highest grade from an accredited dairy area where tll herds are tuberculin tested under state and government supervision and where all farms are under complete farm inspection, in accordance with standard dairy requirements. In addition to the high standards of the district, S.M.A. Corporation enforces its own standards which are still higher.

Purity of milk supply is just as important as ever, but appears to be in danger of being overlooked. This purity is one factor which causes S.M.A. to produce excellent nutritional results more simply and more quickly.

Physicians who prescribe S.M.A. for their patients know that the purity is unquestionable, beside the fact that S.M.A. is the closest approximation of nature's own formula for the human infant both chemically and physically.

It is simple to prescribe, simple for the mother to prepare and produces exceptional nutritional results in most cases.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

The Early Diagnosis of Pregnancy

In an effort to present a simple concise article on the laboratory diagnosis of pregnancy, which will be easily understood, at least the theory and principle must be explained. Experimental data has been presented in numerous volumes dealing with the removal of the whole or a portion of the pituitary gland. Early, some investigators were of the opinion that removal of the entire gland did not result in death. In the past few years it has been very definitely demonstrated that removal of the entire gland does result in death; removal of the posterior lobe leads to no special disturbance but removal of the anterior lobe leads to death. This death may be delayed in experimental animals but the span of life is much shorter than in the control animals which have not had their anterior lobe removed.

The basis for the Friedman, the Ascheim-Zondek and other hormone of the anterior pituitary lobe tests is that the anterior lobe is stimulated by pregnancy to secret a hormone which is passed through the urine. The urine containing this hormone, when injected into young female mice or rabbits will produce typical corpus lutea and copora hemorrhagica in the ovaries.

Instructions to the patient should be to collect a morning specimen, voided, and send at once to the laboratory. The Ascheim-Zondek test is the use of young female mice weighing five to eight grams. The Freidman test is the use of young female rabbits from twelve to fourteen weeks of age. The specimen is centrifuged or filtered and then slowly injected. With the mice, injections are made under the skin of the back and as a rule five mice are injected, using .2 c.c. in the first mouse, .25 c.c. in the second, .3 c.c. in the third, .35 c.c. in the fourth and .4 c.c. in the fifth. On the fifth day following the injections, the mice are killed and the ovaries examined. In my experience I have found the Freidman test to be more practical. First because the ease of injecting the urine into an ear vein, an earlier diagnosis can be made and rabbits in Kansas can be secured more quickly. The Freidman test is carried out as follows, 10 c.c. of the centrifuged or filtered urine is injected into a marginal ear vein. It is not necessary, but a very safe procedure is to inject a second specimen the next morning. The rabbit is killed and examined 48 hours after the first examination. Ovaries will show typical changes if the patient is pregnant.

The diagnosis can be made very early in pregnancy; many cases have been reported where the woman was not more than two weeks pregnant. The accuracy is about 98 per cent, which in the laboratory is a high degree of accuracy.

The practical application aside from the field of obstetrics, is rather wide and of importance. In surgery, the surgeon is often confronted with the patient that desires a hysterectomy for fibroids, concealing the history of pregnancy; then there is the case of associated pregnancy with fibroids. In general medicine, such clinical cases as tuberculosis should not be permitted to go forward with a pregnancy and an early diagnosis is desired. The test is positive in cases of hydatidiform mole and chorioepithelioma and in these conditions the test has been used as a check to determine if living placental tissue remains, the test becoming negative when living placental tissue is not present.

In securing rabbits for the test it is very important that they should be isolated from the buck for at least one month. If desired, examination of the ovaries of the injected animals can be made, the wounds closed and the same rabbits used again in five weeks.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

EXOPHTHALMIC GOITER

Thompson in his summary states there has been a tendency in many quarters to attribute the peculiar nervous manifestations of exophthalmic goiter to an abnormal thyroxine. Examination of a large number of patients over a long period of time has suggested that the nervous manifestations of the disease which may be grouped under the general heading of emotional instability, may be accounted for in a simpler manner. It appears that most patients who develop exophthalmic goiter were emotionally unstable before the development of the disease; that when the disease develops, all reactions that occur are merely exaggerations of reactions that previously were present in less intense form; and that when thyroidectomy restores the basal metabolic rate to normal, the patients themselves are merely restored to their former state of emotional instability. However, fairly calm and apparently stable individuals sometimes get the disease, possibly because the cause is acting with great intensity and susceptibility is merely relative. It appears that the degree of emotional instability that is present in the disease depends largely upon the degree of emotional instability that was present before its development. The writer concludes that the peculiar nervous manifestations of exophthalmic goiter appear to be satisfactorily explained as exaggerations of the customary reactions of the patients, who are usually of the emotionally unstable type.

The Nervous Manifestations of Exophthalmic Goiter at Different Stages in the Disease: Thompson, Willard Owen: Endocrinology: 16:487-491, September and October, 1932.

DOCTORING THE BOWELS

Doctor Brown, who is associated with the Division of Medicine at the Mayo Clinic, presents a hypothetical history of a woman who he says is quite typical of many he sees whose chief complaint is stomach and bowel trouble. By the first doctor to whom she went she was persuaded to submit to an operation for straightening the uterus, then, to an appendectomy. She was suspected of having gall bladder symptoms and adhesions. She went through treatment for hemorrhoids. Later the question of possible focal infection was raised and a tonsillectomy was performed. Further investigation resulted in a diagnosis of chronic colitis and in consequence a succession of diets were recommended; following the diets colonic irrigation was invoked and throughout the whole history there are many repetitions of roentgenologic study.

The doctor presents this hypothetical story suggesting that there is good reason for criticism on such an occasion of the medical profession, and regards it as the end result of doctoring the bowels. He thinks that the diagnosis in the general group of such cases is that of functional intestinal disturbance associated with a state of physical and nervous exhaustion. He believes that even in medical school the undergraduate is unwittingly taught organic diseases at the expense of a broader and more sympathetic appreciation of emotional and nervous problems.

Doctoring the Bowels. Brown, P. W. Proceedings of the Staff Meetings of the Mayo Clinic. Vol. 7:651-654, November 9, 1932.

STANDARDS OF NORMAL IN GASTRIC SECRETION

Alvarez presents data which has been published and which throws light on the size of the daily variation in gastric acidity and on the reliability of one gastric analysis. In some persons the variation is so large that little value can be attached to figures obtained from one test meal. A figure is published which shows the range and central tendency of measurements of gastric acidity for men and women at five yearly intervals from youth to old age. The mean acidity of men during middle life is about 15 points higher than that of women. The percentage of persons with anacidity, after an Ewald test meal, increases steadily from youth to old age. The bimodal distribution curves representing total acidity in the various age groups suggest

that there are two varieties of the human race: one with a tendency to maintain free acidity in the stomach, and the other with a tendency to lose it. The curves representing mean free acidity in men and women from youth to old age are raised about 12 points but otherwise are unchanged by ulceration in the duodenum. Persons with nervous temperament commonly have pepsin values from fifteen to twenty times the normal.

Standards of Normal in Gastric Secretion, Alvarez, Walter C.: Annals of Internal Medicine, 6:314-319, September, 1932.

BRAIN IN RHEUMATIC FEVER

Winkelman and Eckel describe five cases of rheumatic infection with clinical histories and physical findings typical of that infection. The authors draw the following conclusions, first that acute rheumatic fever does not produce in the brain a specific change that can be recognized either grossly or microscopically. The changes that are present in the brains of patients who have shown neurologic and psychiatric symptoms during the course of acute rheumatic fever are similar in every way to the changes that occur in any other acute infection and toxemia. The role that edema of the brain plays in the production of symptoms of so-called cerebral rheumatism has probably been greatly underestimated. Unless relieved, the authors feel, a vicious circle may be initiated. The endarteritis of the small vessels, which has been found in every case, has probably two causations: (a) purely mechanical, as the result of edema of the brain; (b) toxic irritation through the blood stream. Areas of Verodung, or acellular areas, in the brain are found frequently in the cases of acute rheumatic fever, as they are in other infections and toxemias, and may produce a permanent clinical picture if sufficiently numerous. The occurrence of endocarditis can completely change the picture in the brain. The effect of embolic phenomena must be kept in mind. Purpura of the brain is a possibility, and may give evidence of its occurrence by similar lesions in the skin.

The Brain in Acute Rheumatic Fever: Nonsuppurative Meningo-Encephalitis Rheumatica, Winkelman, N. W. and Eckel, John L.: Archives of Neurology and Psychiatry, 28:844-871, October, 1932.

PERICARDITIS

Cases in which the amount of pericardial fluid was more than normal, or in which the fluid, irrespective of its amount, was altered in character, were selected for this study. One hundred and thirteen cases of pericarditis with effusion in which necropsy was performed at the Mayo Clinic were studied with special reference to correlation of clinical and pathologic data. These cases were grouped according to the character of the effusion as follows: (1) acute purulent pericarditis, (2) fibrinous pericarditis with effusion, (3) tuberculous pericarditis and (4) noninflammatory effusion. A distinct predominance in males occurred. Infections were the causic factors in 111 cases (98.2%). Intrathoracic infectious disease occurred greatest frequency. Infectious processes elsewhere in the body occurred in 31 cases (27.4%). Only two cases (1.8%) were found in which infection was absent; both of these cases were examples of primary cardiac disease with congestive failure. From this study it appears to be established that the presence of infectious intrathoracic disease offers a great chance of the pericardium being involved, and when infectious processes of the body as a whole are considered, the chance of pericarditis is still greater. Fluid was present in one or both pleural cavities in 83 cases (73.5%). This observation may be applied as an accessory diagnostic sign that favors the probability of the presence of pericarditis. Death resulting directly and solely from heart disease occurred in only 8.8 per cent of the cases; from sepsis, in 77.9 per cent, and from other causes, in 13.3 per cent.

(Pericarditis: III. Pericarditis with Effusion; Smith, Harry L. and Willius, Frederick A.: Archives of Internal Medicine: 50:192-203, August, 9132.)

———R———

M. H. Streicher, Chicago (Journal A.M.A., Nov. 19, 1932), observed that, in a series of 102 cases, histamine is a marked gastric acidity stimulant; that 7 per cent alcohol is a substantial gastric acidity stimulant; that histamine is apparently extremely toxic in man (0.05 mg. for each 10 Kg.); that 7 per cent alcohol is not toxic in man, and that it seems advisable to discontinue the use of histamine diagnostically.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met Thursday evening, February 16, at the Municipal Hospital in Clay Center. Dr. Arthur L. Osborne of Kansas City, Mo., spoke on "Renal Tuberculosis" and Dr. Ralph Mueller, also of Kansas City, discussed "The Maggot Treatment of Infections."

W. H. ALGIE, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society met in monthly session at the Hotel Jayhawk, February 6; President Hall presided.

Dr. Donald R. Black, of Kansas City, Mo., was the guest speaker and discussed "Hypertensive Heart Changes, Coronary Occlusion and Electrocardiography." With his discussion, the speaker presented a moving picture on electrocardiography from the Lehey Clinic, Worcester, Mass., Dr. Black stated important points in the treatment of coronary disease included: 1. correct diagnosis; 2. keeping the patient absolutely quiet; 3. small doses of quinidine; 4. epinephrin, or ephedrine (the latter intravenous), and 5. do not use insulin.

Visiting guests included: Dr. J. B. Carter, Wilson; Dr. E. L. Morgan, Phillipsburg; Doctors W. A. Carr and W. A. Smiley, Junction City, and Dr. F. Campbell, Kansas City, Mo.

EARLE G. BROWN, M.D., Secretary.

WILSON COUNTY MEDICAL SOCIETY

The Wilson County Medical Society held its regular February meeting at the Brown Hotel at Neodesha at 6:30 p.m., February 20. Payment of 1933 dues was accomplished painlessly and satisfactorily. Dr. J. M. McGuire had charge of the program, which consisted mainly in extemporaneous talks on fractures.

We held no meetings in December account the Southeast Kansas meeting at Parsons December 9th and we skipped the January meeting account the prevalence of flu. At our November meeting election of officers for 1933 was as follows: O. D. Sharpe, Neodesha, president; A. C. Flack, Fredonia, vice president; E. C. Duncan, Fredonia, secretary and treasurer, and F. M. Wiley, Fredonia, delegate to state meeting.

Dr. W. H. Young of Fredonia will read a paper at the state meeting. We have one new member to report, Dr. H. E. Morgan, who recently located here. Dr. Morgan is a K. U. graduate and recently interned at St. Luke's, Kansas City.

Dr. Frank Moorhead, son of Dr. and Mrs. J. L. Moorhead, was a guest.

Our next meeting will be in March at Fredonia.

E. C. DUNCAN, M.D., Secretary.

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

The state meeting of the Kansas Medical Auxiliary will be held in Lawrence this year on May 2, 3 and 4. We are hoping a large number of ladies will be able to attend these meetings.

On Wednesday morning, May 3, an Executive Board meeting will be held at 10 o'clock and at 11 o'clock on the same morning the Executive Council will meet.

Each County Auxiliary is entitled to send to each annual meeting their president and one delegate or alternate for every five paid-up members. Each delegate shall present the report of dues of her County Auxiliary as her credentials.

All dues should be paid through the County Auxiliaries, where one exists, not later than March 1. Each county treasurer should send in her report of membership and paid up dues to the state treasurer by April 1. This will enable the state treasurer to make up her reports for the May meeting.

The Kansas Medical Auxiliary program will be given in full in the doctor's Kansas Medical Society Program.

MRS. E. C. DUNCAN, State President.

DEATH NOTICES

Robinson, Joseph B., Hiattville, aged 74, died at Ft. Scott, January 6, 1933, of chronic myocarditis. He graduated from College of Physicians and Surgeons, Keokuk, in 1878, and Jefferson Medical College, Pennsylvania, 1891. He was not a member of the Society.

Hissem, Ralph Waldo, Wichita, aged 46, died February 27, 1933, as result of an automobile accident, February 24. He graduated from University of Kansas School of Medicine, in 1911. His practice was limited to urology and dermatology. He was a member of the Society.

TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of December 31, 1932, the following has been accepted:

United State Standard Products Co.—Diphtheria Toxoid—U.S.S.P.

Foods

The Committee on Foods of the American Medical Association has accepted the following products for inclusion in Accepted Foods:

Gerber's Strained Cereal, Long-Cooked in Milk (Unseasoned) (Gerber Products Company, Fremont, Mich.)—Strained, cooked whole wheat, oats and wheat germ; cooked in milk. The coarse bran is strained out. It is claimed to be especially prepared for infant feeding, children, convalescents and special diets.

Quaker Pearl Hominy (The Quaker Oats Company, Chicago).—Coarse cracked and pearled white Indian corn grits containing practically no bran or germ.

Prudence Beef Stew (Boston Food Products Company, Boston).—Canned beef stew containing cooked beef, potatoes, carrots, onions, salt and pepper.

Prudence Ready to Brown Corned Beef Hash (Boston Food Products Company, Boston).—Canned corned beef hash; cooked corn beef and potatoes; seasoned with salt and pepper.

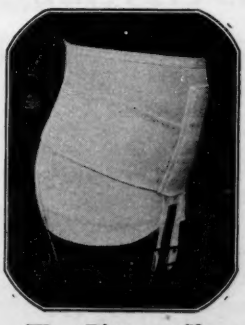
1. Sunrise Brand Tomato Juice. 2. Advo Tomato Juice. 3. Good Morning Tomato Juice. 4. Herald Brand Tomato Juice. 5. Kamo Brand Tomato Juice. 6. Daisee Brand Tomato Juice. 7. Krasdale Brand Tomato Juice. 8. Fleetwood Tomato Juice. 9. Approval Tomato Juice. 10. New State Brand Tomato Juice. 11. Pickwick Brand Tomato Juice. 12. 18-K Brand Tomato Juice. 13. The Rider Brand Tomato Juice. 14. Leslie Brand Tomato Juice. 15. Goodyear Brand Tomato Juice (Vincennes Packing Corporation, Vincennes, Ind., packer; 1. Miner, Read & Tullock, New Haven, Conn. 2. McCord Brady & Co., Omaha. 3. Good Morning Co-Operators, Terre Haute, Ind. 4. Mazo Lerch Company, Washington, D. C. 5. Paxton and Gallagher Company, Omaha. 6. The Herrman Company, Paterson, N. J. 7. A. Krasne, New York. 8. King, Dobbs & Co., Chattanooga, Tenn. 9. M. E. Horton, Inc., Washington, D. C. 10. The Williamson-Halsell-Frasier Company, Oklahoma City. 11. Kansas City Wholesale Grocery Company, Kansas City. 12. Winston and Newell Company, Minneapolis. 13. The Nicholas Reiter Company, Baltimore. 14. Cressey Dockham & Co., Inc., Salem, Mass. 15. Mazo-Lerch Company, Washington, D. C., distributors).—Pasteurized tomato juice with added salt; claimed to retain in high degree the vitamin content of the raw juice. (Jour. A.M.A., January 21, 1933, p. 186).

Quaker Hominy Grits (The Quaker Oats Company, Chicago).—Coarse white Indian corn grits containing practically no bran or germ. It is claimed to be for all table uses.

1. Red Cross Brand Sterilized Unsweetened Evaporated Milk. 2. Gold Cross Unsweetened Sterilized Evaporated Milk. 3. Northfield Brand Sterilized Unsweetened Evaporated Milk. 4. Columbine Sterilized Unsweetened Evaporated Milk (1. Colorado Condensed Milk Company, Fort Lupton, Colo.; 2. Mohawk Milk Products Company, New York City; 3. Northfield Milk Products Company, Northfield, Minn.; 4. Colorado Condensed Milk Company, Fort Lupton, Colo.; subsidiaries of the Carnation Company, Milwaukee).—Unsweetened sterilized evaporated milk. (Jour. A.M.A., January 28, 1933, p. 259).

Trademark Registered **STORM** Trademark Registered

Binder and Abdominal Supporter



Gives perfect uplift. Is worn with comfort and satisfaction. Made of Cotton, Linen or Silk. Washable as underwear. Three distinct types, many variations of each.

The Picture Shows "Type N"

Storm belts adaptable to all conditions, Ptosis, Hernia, Pregnancy, Obesity, Sacro-Iliac Relaxations, High and Low Operations, etc.

Ask for Literature

KATHERINE L. STORM, M.D.

Originator, Owner and Maker

1701 Diamond St. Philadelphia

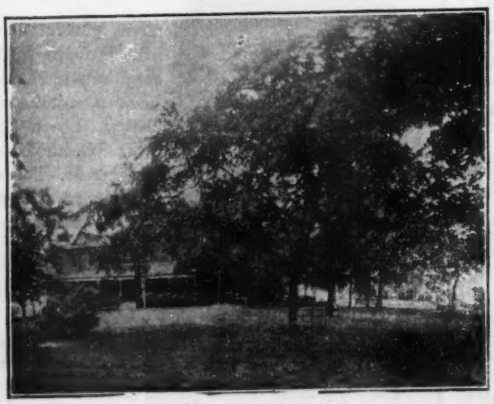
Propaganda and Reform

Hazards of Iodized Oil Injections.—It has been ten years since Sicard and Forestier introduced into medical practice the iodized oils as diagnostic agents. These appeared to offer great possibilities in the localization and definition of certain lesions in the cavities of the body. Occasionally incidents have been reported showing that the injection and retention in the body of these oils are not without danger. In a recent issue of The Journal, December 3, 1932, p. 1946, appeared a report of the Council on Pharmacy and Chemistry dealing with the dangers of the injection of iodized oils. The report emphasized anew the necessity for a policy which has guided the Council in its deliberations over the past quarter of a century; namely, that of insisting on due caution in the use of all new methods and preparations until their potentialities for doing damage have been subjected to the test of scientific scrutiny. (Jour. A.M.A., January 7, 1933, p. 46).

Misbranded "Patent Medicines".—The following "patent medicines" have been the subject of prosecution by the Food and Drug Administration of the U. S. Department of Agriculture which enforces the Federal Food and Drugs Act; Goldban's Celebrated 449 Remedy (Hance Bros. and White, Inc.), containing potassium nitrate, methenamine, uva ursi, alcohol and water. Iroquois Famous Indian Herb Tea (Iroquois Famous Indian Remedies Co., Inc.), containing coriander, fennel, celery, senna, buchu, chamomile, sassafras and triticum. Soak-In Liniment (Morgan and Sampson), chiefly oils, including methyl salicylate (49 per cent), and peppermint. Novak's Kidney Pills and Komet (John Novak Co.): The pills containing methylene blue and cubeb oleoresin; the Komet, an ointment essentially of petrolatum base containing methyl salicylate, camphor and menthol. Bel-Rub (W. E. Shuit, Inc.), an ointment with a petrolatum base containing methyl salicylate, camphor and menthol. Davis' Union Tonic (Charles T. Davis), containing epsom salt, with extracts of plant drugs, including licorice, a laxative, a bitter, salicylic acid and water. Myer's (Dr.) Pneumonia Compound (Myers Remedy Co.), containing sodium salicylate, extracts of plant drugs, sugar, alcohol and water. Diatussin (Ernst Bischoff Co., Inc.), containing extracts of plant drugs including thyme, with alcohol and water. Histosan Syrup (Ernst Bischoff Co., Inc.), containing guaiacol, protein matter, sulphates, sugar and water. Metro-Oil (Metro-Oil Co.), containing mineral oil, volatile oils including rose oil, and a small amount of pyridine. Wampole's Vaginal Cones Boroglyceride Compound with Ichthyol (Henry K. Wampole and Co.), containing boric acid, borax, zinc and sulphonated compounds, gelatin and glycerin. Bee Brand Laxative Quinine Tablets (McCormick and Co.) containing acetanilid (1.9 grains per tablet), cinchonin, caffeine, podophyllum resin and a trace of quinine. Ferrosanol (Haemozon Products Co.), containing common salt, hydrochloric acid, iron (ferrous and ferric) salts and water. K P N Nutrition No. 50 and K P N Nutrition No. 75-25 (Perfect Nutrition Co., Inc.): No. 50 being essentially a mixture of alfalfa, beets, parsley, and seaweed; No. 75-25 essentially a mixture of beets and kale. B 5000 (Robert P. Gust Co., Inc.), containing extracts of plant drugs including a laxative drug, trace of alkaloids, resins, aloin, alcohol and flavored water. Eucaline Tonic Compound (Eucaline Medicine Co.), containing cinchona hydrochloride, iron chloride, a laxative plant drug, sugar, alcohol and water; the "tasteless" form had essentially the same composition, with the

Grandview Sanitarium

KANSAS CITY, KANSAS (26th St. and Ridge Ave.)



A High Grade Sanitarium and Hospital of superior accommodations for the care of:

Nervous Diseases

Mild Psychoses

The Drug Habit

and Inebriety.

Situated on a 20-acre tract adjoining City Park of 100 acres. Room with private bath can be provided.

The City Park line of the Metropolitan Railway passes within one block of the Sanitarium. Management strictly ethical.

Telephone: Drexel 0019

SEND FOR BOOKLET

E. F. DeVILBISS, M.D., Supt.

OFFICE, 1124 PROFESSIONAL BLDG., KANSAS CTY, MO.

addition of acetanilid. Mygrone (John Wyeth and Bro., Inc.), containing amidopyrin and fillers. Boracetine (F. E. Barr and Co.), containing baking soda, sodium borate, potassium chlorate, thymol, menthol, eucalyptol and cassia oil, alcohol and water. Rominеck's Dieuretic Pills (Hance Bros. and White, Inc.), containing extracts of plant drugs including licorice, bearberry, buchu and juiper oil. Monroe's Formula No. 7 (Dow Drug Co.), essentially iron and ammonium citrate, sodium benzoate, potassium iodide, very small amounts of hydrastis, with glycerin and water. Kavatone (Gray's Medicine Co.), containing potassium iodide, a laxative drug, sassafras oil and methyl salicylate, isopropyl alcohol, glycerin and water. Blue's (Dr.) Kidney and Bladder Remedy and Dr. Blue's Wonderful Blood Purifier (James T. Blue Chemical Co.): Kidney and Bladder Remedy was essentially methenamine, potassium acetate, buchu, sugar, alcohol and flavored water; Blood Purifier was essentially epsom salt, potassium iodide, sodium salicylate, and sassafras, with water and vanilla flavoring. Beach's Gen-Sen Tonic (Beach's Wonder Remedy Co.), essentially baking soda, common salt, saccharin, volatile oil including cassia, menthol and methyl salicylate, alcohol, water and a trace of borax. Oxien Nazone Salve (Great Oxie Co.), an ointment with a petrolatum base, sassafras, oil, camphor oil, methyl salicylate, and traces of carbolic acid and menthol. T. M. C. Laxative Cold Tablets (Frederick Stearns and Co.), containing acetanilid, cinchonine salicylate, podophyllum and camphor. C. P. R. Tablets (P. McConnel Co.), containing aspirin, acetphenetidin, a laxative drug, and red pepper. Standard Cough and Cold Compound (Standard Remedy Co., Inc.), essentially tar, menthol, extracts of plant drugs including wild cherry; salicylic acid, sulphuric acid, glycerin, sugar and water. Standard System Tonic (Standard Remedy Co., Inc.), containing epsom salt, salicylic acid, saccharin, licorice, sassafras, wild cherry and water. Welch's Aegopodium (W. C. Welch), containing potassium iodide, colchicine, alcohol and water. Adropsedema (Van Seaton Chemical Co.), containing metallic iron, scoparius and gelsemium. Leonard's Elixir (S. B. Leonardi & Co., Inc.), containing potassium iodide, extracts of plant drugs, small quantity of an iron compound, alcohol, sugar and water. Chewalla (Chewall Co.), containing potassium iodide, acetic acid, a laxative drug, alcohol and flavored water. Four-Forty Four (4-44) (W. B. Nethery), containing epsom salt, compounds of ammonium, sodium, potassium and phosphorus, small quantities of saccharin and salicylic acid, traces of calcium, iodine and manganese, sugar and water, flavored and colored. (Jour. A.M.A., January 7, 1933, p. 58).

Dr. Stoll's Diet-Aid.—Several inquiries have been received within the past year regarding "Dr. Stoll's Diet-Aid, the Natural Reducing Food." The address of Diet-Aid, Inc., is also the address of Dr. John E. Stoll, who, according to our records, was born in 1900, was graduated by Rush Medical College, Chicago, in 1925, and licensed in Illinois the same year. In reply to an inquiry addressed to Dr. Stoll he stated that Diet-Aid is intended to be taken in the form of a beverage by those on a reducing diet, and is a compound of milk chocolate, starch, and a water extract of roasted whole wheat and bran; that Diet-Aid has the following composition: carbohydrates, 75.5 per cent; crude fat, 3.6 per cent; crude protein, 9.2 per cent; ash, 5.6 per cent; moisture, 6.1 per cent.

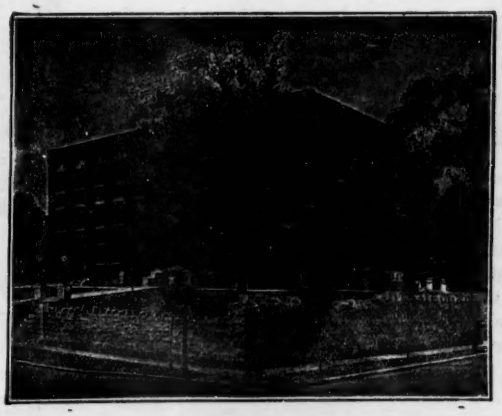
JAMES Y. SIMPSON, M.D.,
Neurologist and Addictologist

HERMON S. MAJOR, M.D.,
Neuro-Psychiatrist

SIMPSON–MAJOR SANITARIUM

3100 Euclid Avenue, Kansas City, Mo.

Nervous Diseases. Selected Mental Cases. Alcohol Drug and Tobacco Addictions



Electricity Heat Water Light Exercise Massage Rest Diet Medicine

Beautifully situated in a pleasant residence section of the city. Fully equipped and well heated. All pleasant outside rooms. Large lawn and open and closed porches for exercises. Experienced and humane attendants. Liberal, nourishing diet. Resident physician in attendance day and night.

Dr. Stoll also stated that in making the ordinary drink of Diet-Aid, one level teaspoonful was used in a cup of water. This weighs about 3 grams, and in view of the composition of Diet-Aid, would give almost 11 calories (10.89) in all, in a cup of Diet-Aid. In this connection, it is worth remembering that a tablespoonful of whole milk has a fuel value of 14 calories. According to the directions on the trade package, the person is told to substitute "one or more cups" of Diet-Aid in the place of breakfast and lunch. The average sedentary woman's daily fuel requirements range from 1,800 to 2,300 calories. The breakfast for such a woman would call for caloric values ranging between 400 and 600. According to Dr. Stoll's plan, such a woman, would take "one or more cups" of Diet-Aid having a fuel value of less than 11 calories to the cup, of which 9 calories would be carbohydrate. The same would be true for the luncheon. The person who follows the Diet-Aid suggestion must inevitably receive a hopelessly unbalanced diet. (Jour. A.M.A., January 21, 1933, p. 207).

Néocaine.—One original package of Rachi-Néocaine Corbière (Laboratories Pharmaceutiques Corbière, Paris; Sole U. S. Agents, the Anglo-French Drug Company, Inc., New York) was submitted to the A.M.A. Chemical Laboratory for preliminary examination. Qualitative tests indicated the presence of procaine base (paraaminobenzoyl-diethylaminoethanol) and chloride. On thermal analysis the specimen was found to be identical with procaine hydrochloride U.S.P. Néocaine appears therefore to be the French proprietary name for procaine hydrochloride. The product has not been submitted to the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. (Jour. A.M.A., January 21, 1933, p. 210).

Bancroft's Thiocyanate Therapy.—Recently The Journal referred to Bancroft's method for the control of narcotic addiction and of the effects of anesthetic drugs. Choosing sodium thiocyanate—also designated rhodanate by some chemists—as the peptizing agent, the Cornell University chemists believed that the sensory nerve colloids are albumin-like and should absorb the thiocyanate ion strongly and be easily peptized by the cell electrolytes. The experiments have recently been criticized as unconvincing by Burkholder of the department of pathology at the University of Chicago. His results obtained with sodium thiocyanate as an antagonist for ether did not corroborate the conclusions brought forth by Bancroft and Rutzler that thiocyanate ions antagonize the anesthetic action of ether. In a large majority of the experiments with ether the return to normal of the lid reflexes and other manifestations required a longer time in these experimental animals than in their controls. As an antagonist for sodium amytal it was found that the sodium thiocyanate did not shorten the long anesthesia but instead lengthened it, and decreased instead of increased the respiratory rate. As an antagonist for morphine it was found that the morphine narcosis was not counter-acted in any way and that gradient reduction in the dosage of thiocyanate still proved fatal or toxic. Such a recital of actual attempts to corroborate Bancroft's results warns against undue exploitation of a drug of which the pharmacologic effects are by no means conclusively established. (Jour. A.M.A., January 28, 1933, p. 262).

The Federal Trade Commission.—At various times attention has been called to the good work that is being done by the Federal Trade Commission in pro-

THE ROBINSON CLINIC

Heredity has been always a controversial subject in medicine, and its influence in the production of disease, has been always overestimated. Tuberculosis is one outstanding example.

In psychiatry, as elsewhere, when a disease could not be satisfactorily explained, we have fallen back on heredity as an etiologlcal factor. However, as psychology and pathological psychology become more scientific in their outlook, we are beginning to understand that environment is a very important predisposing cause of insanity—if not the most important.

Physicians can help prevent insanity by lending a more attentive ear to the unusual behavior of children. Whenever a mother mentions that a child is acting queerly or is doing things out of the ordinary, do not pass it off with the remark that "boys will be boys," or think that nothing can be done, because his great uncle was insane. Listen to the stories, give good common-sense advice and, if the condition becomes worse, call in an expert, before an insanity develops. Prevention pays big dividends; cure is sometimes impossible.

Airplane View
—Courtesy Curtiss-Wright Flying Service

Nervous and Mental Diseases

G. WILSE ROBINSON, M.D.
Medical Director
1432 Professional Bldg. 8100 Independence Road
Kansas City, Mo.

Drug and Alcohol Addiction

G. Wilse Robinson, Jr., M.D.
Assoc. Medical Director

Paul A. Johnson, M.D.
Internist

tecting the public against misrepresentation or fraud in the medical or quasi-medical fields. Congress has given this Commission power to investigate and take action on cases that involve or that seem to involve what are broadly spoken of as unfair trade practices. Where such investigations prove that unfair trade practices have been indulged in, the Commission can, and in many instances does, obtain from the individual or concern involved a signed stipulation to the effect that the objectionable methods will be abandoned. If a stipulation cannot be arrived at, the Commission may issue what is known as a Cease and Desist Order, in which the person or concern involved is ordered to cease and desist from the objectionable practices. A few of the many cases reported in the Commission's bulletins in the past few months were: Marvo (William Withol and Marvo, Inc., New York City).—The firm has agreed to discontinue representing that Marvo will, within three days' time, remove pimples, blackheads, crow's-feet around the eyes, wrinkles, etc. It appears that Witol's Marvo had at one time as its active caustic ingredient salicylic acid. Later resorcin seems to have been the active ingredient. Reports have been received from physicians of severe reactions suffered by patients who had used the Marvo product. Hildebrand Laboratories.—Frank Granzow of Chicago, whose trade name is "Dr. Hildebrand Laboratories," sold an alleged treatment for gallstones, stomach trouble, nervousness, jaundice and constipation. He has agreed to discontinue representing that his treatment will cure the ailments specified, when such is not the fact. The Hildebrand product has been reported to contain menthol, oleic acid, phenolphthalein, powdered gentian, castile soap and sodium salicylate. Goldman Hair Dye (Monroe Chemical Company, St. Paul).—The concern has agreed to discontinue representing that the dye will "restore" the color of the hair, that the treatment takes only seven or eight minutes and requires only a few cents' worth of dye, and that the gray hair regains its youthful color overnight, when such are not the facts. The product is a hair dye of the silver-salt type. Cystex (The Knox Company, Kansas City, Mo.).—The Knox Company has agreed to discontinue making false and misleading claims for its nostrum. Cystex, it seems, comes in the form of two tablets, gray and brown. A few years ago the gray tablets were said to contain hexamethyleneamine, powdered extracts of colchicum, calcium phosphate, and thyroid substance. Later, reference to thyroid substance was omitted. The brown tablets have been claimed to contain extracts of hydrangea, corn silk, buchu and triticum, with boric acid, potassium bicarbonate and atropine sulphate. Lepso—A mail-order epilepsy cure put on the market by R. P. Neubling of Milwaukee, doing business under the trade names R. Lepso and Lepso Company. Neubling has agreed to discontinue his claim that the stuff can be taken safely by children, when such is not the fact, and also to cease claiming that the product is a competent treatment for epilepsy without indicating the limits of its effectiveness. The product, at the time it was examined in the A.M.A. Chemical Laboratory, was found to contain the equivalent of 51 grains of potassium bromide to the dose. Dermolax.—H. G. Levy, who traded as the Interstate Laboratories of Chicago, has agreed to discontinue representing that psoriasis is caused by a germ localized in the tissues of the skin and that Dermolax Ointment and Soap would reach the seat of the trouble, when such is not the fact. He has also agreed to cease representing that Dermolax is a spe-

THE "SLING" PRINCIPLE OF SUPPORT

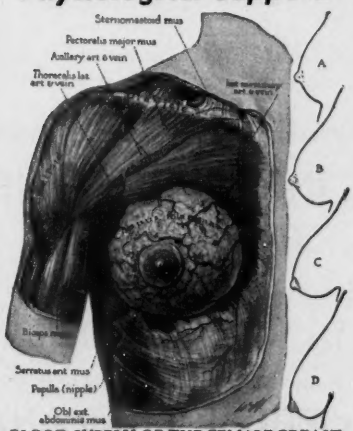
for All Types of Breasts in

CAMP
TRADE MARK

Physiological Supports

MODEL 5042—For lighter pendulous breast with little or no deposits of fat.

SAGGING breasts require support, but never constriction. Pendulous glands and weakened tissues should be lifted to their natural level and relieved of strain, but not subjected to undue cramping or binding. The therapeutic correctness of the "sling" principle employed by S.



BLOOD SUPPLY OF THE FEMALE BREAST
Right—Profiles of common types of breasts from small breast of young girl to pendulous one of older woman.

MODEL 5030—For medium-size sagging breast; extra re-enforced, pre-shrunk.

H. Camp and Company breast supports is acknowledged by physicians.

Sold by better surgical and drug houses, and surgical sections, corset departments, of stores. Write for new Physicians' Manual.

S. H. CAMP & COMPANY
Manufacturers
JACKSON, MICHIGAN
CHICAGO 1056 Merchandise Mart
NEW YORK 330 Fifth Ave.
LONDON 252 Regent St. W.

cific treatment for psoriasis. Information received by the Bureau of Investigation in 1929 was to the effect that the Dermolax "treatment" consisted of a white product containing ammoniated mercury and a brown preparation that contained chrysarobin. (Jour. A.M.A., January 28, 1933, p. 275).

℞

FOR SALE—Doctors office supplies. Diathermy, polysine, alpine ray, basal metabalor, vattenborg irrigator, laboratory equipment, sterilizer, light, instruments, surgical supplies, three desks, three tables, eleven chairs, two typewriters, iron safe, scales, two couches, books and bookcases. Address L. M. Powell, M.D., 701 Taylor Street, Topeka, Kansas.

FOR SALE—Account death of Dr. N. Adair Kidd, physician's office equipped complete, x-ray, diathermy, mercury arc light, and complete set of instruments for general practice, also library. Would like to sell complete, but will consider separate sales. Address Mrs. Minnie Kidd, Ellis, Kansas.

REPRINTS

Reprints of original articles will be furnished the authors at the following rates, if the order for same is received within fifteen days after the Journal is mailed. These prices are based on the number of pages of the Journal the article occupies:

Three pages or less, first 100, $9.00; additional 100's, $2.50. Four pages, $12.00; add. 100's, $3.00. Five pages, $15.00; add. 100's, $4.00. Six pages, $18.00; add. 100's, $5.00. Seven pages, $21.00; add. 100's, $6.00. Eight pages, $24.00 add. 100's, $7.00.

If orders are received after the forms are destroyed an additional charge will be made to cover the cost of resetting the type.

These reprints are standard form, with cover, each page of the Journal making 3 pages of reprint.

McKesson's Vitamin Concentrate of Cod Liver Oil

With the advent of the therapeutic importance of Vitamins, there has been instituted a tremendous amount of research work, both for the purpose of determining the true value of the Vitamin and also, for the purpose of developing substitutes for the natural vitamins as they occur in cod liver oil.

In connection with this researih, there has also been clinical work done on the question of mass doses and we find a divided opinion as to the value of administering vitamins in mass doses.

NATURAL VITAMINS

It has long been our contention that, based upon the history of two hundred years of Cod Liver Oil therapy, there existed no logical reason why we should turn aside from this well tried and established remedy and delve into the complexities of chemically produced substitutes, or reinforcing beyond the body's ability to absorb Cod Liver Oil.

ADMINISTRATION OF VITAMINS

In standardizing McKesson's Vitamin products, we have arrived by careful study at a given dosage level which we have demonstrated produces the best results, and we, therefore, hold that to administer Vitamins in excess of the dosage level established does not produce beneficial effects in proportion to the quantity administered, but is only efficient in proportion to the amount absorbed.

MCKESSON'S VITAMIN CONCENTRATE OF COD LIVER OIL

McKesson's Vitamin Concentrate of Cod Liver Oil is supplied in the strength of 11 A and 11 D, suspended in a neutral oil to preserve the Vitamins against oxidation. It is flavored slightly to render it more palatable, and in its administration minims from a specially designed dropper are substituted for teaspoonfuls.

INTELLIGENT INTERPRETATION
of Your Prescriptions

Careful attention to detail, utmost diligence in grinding lenses, and a sincere desire to carry out your wishes with exactitude, mark Lancaster Service. You may send us your prescriptions in confidence, Doctor. A wide variety of stocks, intelligent, experienced workmen, and a "NO DELAY" policy enable us to fill them to your entire satisfaction. May we send you our catalog?

STYLISH
DISTINCTIVE
MODERN
GEMINI SECUNDUS

LANCASTER OPTICAL COMPANY
An Exclusive Oculist Service
1114 Grand Avenue Kansas City, Missouri

Lancaster

APPLICATION FOR MEMBERSHIP

To the Officers and Members of the

.....County Medical Society

GENTLEMEN:—I hereby make application for membership in your Society, and, if accepted as a member, I agree to support its Constitution and By-laws, to practice in accordance with the established usages of the profession, and will in no way profess adherence or give my support to any exclusive dogma or school.

1. I was born at.....on the.....day of.....1.....

2. My preliminary education was obtained at.....
(Public schools, high school or college)

.....located at.....from which I
(City and State)

graduated in the year 1.....and received the degree of.....

3. My medical education was obtained at.....
(Name of Medical College)

.....located at.....

from which I graduated in the year 1.....

4. My state certificate was issued.....
(Name of State and date of license under which you are practicing)

5. I have practiced in my present location.....years; and at the following places for the years named.....
(Name each location and give dates)

.....

6. I hold the following positions:.....
(Give college and hospital positions, insurance companies for which you are the examiner, etc.)

.....

.....

7. Specialty.....

8. Residence.....Street

9. Office. .....Street

10. Office Hours.....

Respectfully, Name.....

P. O.....

County.....

State .....

NOTE.—The above information is primarily for use in the Card Index System of the County and State and for the American Medical Directory.

KANSAS MEDICAL SOCIETY

CHARTERED BY THE TERRITORIAL LEGISLATURE OF KANSAS, FEBRUARY 19, 1859

President—J. D. COLT, Sr., M.D., Manhattan

Vice-President—J. F. Gsell, M.D., Wichita

Secretary—J. F. HASSIG, M.D., Kansas City **Treasurer—GEO. M. GRAY, M.D., Kansas City**

Executive Committee of Council

J. D. Colt, Sr., MD.....Manhattan
J. F. Hassig, M.D.....Kansas City
Geo M. Gray, M.D.....Kansas City
O. P. Davis, M.D.....Topeka

Bureau of Public Relations

J. D. Colt, Sr., M.D.....Manhattan
J. F. Hassig, M.D.....Kansas City
Geo. M. Gray, M.D.....Kansas City
O. P. Davis, M.D.....Topeka
H. E. Haskins, M.D.....Kingman
E. C. Duncan, M.D.....Fredonia
L. F. Barney, M.D.....Kansas City
Earle G Brown, M.D.....Topeka

Committee on Public Health and Education

H. E. Haskins, M.D.....Kingman
F. A. Trump, M.D.....Ottawa
L. O. Nordstrom, M.D.....Salina
E. C. Morgan, M.D.....Clay Center
C. W. Robinson, M.D.....Atchison

Committee on Public Policy and Legislation

E. C. Duncan, M.D.....Fredonia
Chas. S. Huffman, M.D.....Columbus
W. A. Carr, M.D.....Junction City
J. D. Colt, Sr., M.D., Ex-officio.....Manhattan
J. F. Hassig, M.D., Ex-officio.....Kansas City

Committee on School of Medicine

L. F. Barney, M.D.....Kansas City
E. S. Edgerton, M.D.....Wichita
L. G. Allen, M.D.....Kansas City
W. M. Mills, M.D.....Topeka
Walter Stephenson, M.D.....Norton

Committee on Hospital Survey

Geo. M. Gray, M.D.....Kansas City
David W. Basham, M.D.....Wichita
Alfred O'Donnell, M.D.....Ellsworth

Committee on Medical History

Earle G Brown, M.D.....Topeka
W. S. Lindsay, M.D.....Topeka
O. D. Walker, M.D.....Salina

Committee on Scientific Work

J. F. Hassig, M.D.....Kansas City
H. L. Chambers, M.D.....Lawrence
L. S. Powell, M.D.....Lawrence

Committee on Necrology

J. T. Axtell, M.D.....Newton
Earle G. Brown, M.D.....Topeka
J. F. Hassig, M.D.....Kansas City

Committee on Stormont Medical Library

Wm. C. Menninger, M.D.....Topeka
W. F. Bowen, M.D.....Topeka
J. L. Lattimore, M.D.....Topeka

Committee on Control of Cancer

C. C. Nesselrode, M.D.....Kansas City
Alfred ODonnell, M.D.....Ellsworth
R. W. Hissem, M.D.....Wichita
H. L. Snyder, M.D.....Winfield
Milton B. Miller, M.D.....Topeka

Auxiliary Committee

W. G. Emery, M.D.....Hiawatha
E. C. Duncan, M.D.....Fredonia
C. A. Boyd, M.D.....Hutchinson
O. E. Stevenson, M.D.....Oswego
J. F. Hassig, M.D.....Kansas City

COUNTY SOCIETIES

Members of the Component County Societies are members of the Kansas Medical Society. Physicians residing in counties where no County Society exists may join the society of an adjoining county. Physicians residing where no County Society exists, who are members of a district or other independent society approved by the Council, may be admitted to membership.

ANNUAL DUES due on or before February 1st of each year.

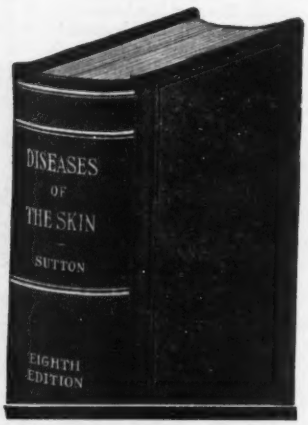
Dues should be paid to the Secretary of the Component County Society, or, if not a member of a County Society, to the Secretary of the Kansas Medical Society.

OFFICERS FOR 1932

COUNTY	PRESIDENT	SECRETARY
ALLEN	O. L. Cox, Iola	C. B. Stephens, Iola
ANDERSON	J. W. Helton, Garnett	J. A. Milligan, Garnett
ATCHISON	Virgil Morrison, Atchison	T. E. Horner, Atchison
BARTON	T. J. Brown, Hoisington	L. R. McGill, Hoisington
BOURBON	R. Y. Strohm, Fort Scott	R. L. Gench, Fort Scott
BROWN	Paul Conrad, Hiawatha	L. C. Edmonds, Horton
BUTLER-GREENWOOD	Harry Lutz, Augusta	W. E. Janes, Eureka
CENTRAL KANSAS	J. R. Betthauser, Hays	Geo. F. Davis, Kanopolis
CHEROKEE	R. C. Lowdermilk, Galena	W. H. Iliff, Baxter Springs
CLAY	Robert W. Algie, Clay Center	W. H. Algie, Clay Center
CLOUD	A. M. Townsdin, Jamestown	R. E. Weaver, Concordia
COFFEY	H. T. Salisbury, Burlington	A. B. McConnell, Burlington
COWLEY	F. A. Kelley, Winfield	H. E. Snyder, Winfield
CRAWFORD	Ethel Hill-Sharp, Pittsburg	Oscar Sharp, Pittsburg
DECATUR-NORTON	A. G. Davis, Logan	W. Stephenson, Norton
DICKINSON	D. Peterson, Herington	K. E. Conklin, Abilene
DONIPHAN	A. E. Cordonier, Troy	W. M. Boone, Highland
DOUGLAS	A. J. Anderson, Lawrence	Lyle S. Powell, Lawrence
ELK	R. C. Harner, Howard	F. L. DePew, Howard
FINNEY	O. W. Miner, Garden City	H. C. Sartorius, Garden City
FORD	W. F. Pine, Dodge City	C. L. Hooper, Dodge City
FRANKLIN	J. A. Dyer, Ottawa	L. V. Dawson, Ottawa
HARPER	A. E. Walker, Anthony	E. E. Hartman, Anthony
HARVEY	E. L. Peckenschneider, Halstead	F. G. Bartel, Newton
JACKSON		C. A. Wyatt, Holton
JEWELL	J. E. Hawley, Burr Oak	C. W. Inge, Formosa
JOHNSON	H. R. Wahl, Kansas City	D. E. Bronson, Olathe
KINGMAN	B. H. Pope, Kingman	H. E. Haskins, Kingman
LABETTE	M. C. Ruble, Parsons	R. W. Urie, Parsons
LEAVENWORTH	A. L. Suwalsky, Leavenworth	Leon Matassarin, Leavenworth
LINCOLN	J. M. Sutton, Lincoln	G. M. Anderson, Lincoln
LINN	L. D. Mills, Mound City	H. L. Clark, La Cygne
LYON	P. W. Morgan, Emporia	D. R. Davis, Emporia
McPHERSON	W. R. Jones, Canton	A. M. Lohrentz, McPherson
MARION	R. C. Smith, Marion	E. H. Johnson, Peabody
MARSHALL	M. A. Brawley, Frankfort	J. W. Randell, Marysville
MEADE-SEWARD	C. E. Phillips, Liberal	E. J. McCreight, Liberal
MIAMI	P. A. Pettit, Paola	B. L. Phillips, Paola
MITCHELL	M. R. Spessard, Beloit	Martha Madtson, Beloit
MONTGOMERY	Fred Gasser, Cherryvale	J. A. Pinkston, Independence
NEMAHA	F. S. Deem, Oneida	S. Murdock, Jr., Sabetha
NEOSHO	J. N. Sherman, Chanute	A. M. Garton, Chanute
OSBORNE	J. D. Johnson, Alton	S. J. Schwaup, Osborne
OTTAWA	L. M. Hinshaw, Bennington	C. M. Vermillion, Minneapolis
PAWNEE	LeRoy W. Shepard, Larned	Mary H. Elliott, Larned
PRATT	J. R. Campbell, Pratt	E. M. Ireland, Coats
RENO	H. L. Scales, Hutchinson	C. A. Boyd, Hutchinson
REPUBLIC	J. W. Dittemore, Belleville	H. E. Robbins, Belleville
RICE	L. J. Beyer, Little River	C. E. Fisher, Lyons
RILEY	C. M. Siever, Manhattan	H. T. Groody, Manhattan
RUSH-NESS	L. A. Latimer, Alexander	W. J. Singleton, La Crosse
SALINE	Earl G. Padfield, Salina	L. O. Nordstrom, Salina
SEDGWICK	C. D. McKeown, Wichita	H. E. Marshall, Wichita
SHAWNEE	Marvin Hall, Topeka	Earle G. Brown, Topeka
SMITH	D. W. Relihan, Smith Center	V. E. Watts, Smith Center
STAFFORD	F. W. Tretbar, Stafford	L. E. Mock, St. John
SUMNER	J. F. McDonnell, Caldwell	R. M Price, Wellington
WASHINGTON	H. D. Smith, Washington	
WILSON	O. D. Sharpe, Neodesha	E. C. Duncan, Fredonia
WOODSON	A. C. Dingus, Yates Center	L. A. West, Yates Center
WYANDOTTE	C. O. West, Kansas City.	O. W. Davidson, Kansas City

SUTTON'S
DISEASES OF THE SKIN

Eighth Edition. 1352 pages, 6½ x 9½, with 1290 illustrations in the text and 11 color plates. Price, cloth, $12.00

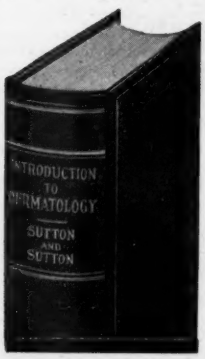


FOR nearly two decades this book has served the medical profession of the world. The volume is well-balanced, and evenly written. The clinical descriptions are complete, and the matter of differential diagnosis is given careful attention. Sound and proven methods of treatment are suggested, and the prescriptions recommended are those which have stood the test of time. The collection of photomicrographs is one of the finest ever published. Sutton's views on pathology are sound. The literary references are complete and up-to-date. More than 1,290 cuts are used, really an atlas of skin diseases in themselves. The eighth edition has been completely and thoroughly revised.

INTRODUCTION TO DERMATOLOGY

575 pages, 5½ x 8½, with 183 illustrations Price, Cloth, $5.00

A new work, written expressly for the use of the general medical man and the student. Complete and comprehensive, compact and concise. All needless verbiage has been eliminated. As nearly a crystallized compendium of dermatological information as it is possible for a book to be. Clinical descriptions are complete and up-to-date. Particular attention is given to the matter of differential diagnosis. The chapters on pathology represent the views of eminent modern authorities. Methods of treatment suggested and recommended are practical and trustworthy, and at the same time simple and easy to employ. Illustrations portray typical examples of diseases which they represent.



By **Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.)** Professor of Diseases of the Skin, University of Kansas School of Medicine; and **Richard L. Sutton, Jr., A.M., M.D.,** Visiting Dermatologist to the Kansas City General Hospital.

Send for copies of these books today

The C. V. Mosby Company, Publishers, 3523 Pine Blvd., St. Louis, U. S. A.

McKesson's

VITAMIN CONCENTRATE OF COD LIVER OIL.

(COUNCIL ACCEPTED)

For use where Cod Liver Oil is indicated

McKesson's Vitamin Concentrate of Cod Liver Oil contains NATURAL VITAMINS A and D extracted from pure medicinal Cod Liver Oil and does not require any lengthy explanation as to therapy.

Cod Liver Oil therapy based on the vitamin content has stood the test of time and use where indicated is followed by definite prophylactic or curative results without hazard.

McKesson's Vitamin Concentrate of Cod Liver Oil is Standardized for Strength and Guaranteed as to Potency. Contains a Vitamin A potency of 5500 units per gram and a Vitamin D potency of 146 units per gram as defined by the Wisconsin Alumni Research Foundation.

McKesson's
VITAMIN CONCENTRATE OF COD LIVER OIL
(COUNCIL ACCEPTED)
ELEVEN C. C.
A Concentrate of Vitamins A and D from Cod Liver Oil of high potency.
DOSAGE: 3 to 6 drops 3 times a day as directed by physician
Dropper provided
McKESSON & ROBBINS

AGREEABLE AS TO TASTE AND ODOR

A specially designed glass dropper eliminates all guesswork in measuring dosage.

McKESSON'S
Vitamin Concentrate of Cod Liver Oil
IS NOT AN IRRADIATED PRODUCT

McKESSON & ROBBINS

INCORPORATED

NEW YORK BRIDGEPORT MONTREAL

USE COUPON FOR FULL SIZED PACKAGE

McKESSON & ROBBINS, INC., S3
Bridgeport, Conn.

Gentlemen: Please mail me for trial a full sized package of McKesson's Vitamin Concentrate of Cod Liver Oil.

M.D.

City

State

Please print name or send letterhead to avoid mistakes.

One of a series of advertisements prepared and published by PARKE, DAVIS & COMPANY in behalf of the medical profession. This "See Your Doctor" campaign is running in the *Saturday Evening Post* and other leading magazines.

THIS LITTLE GIRL HAS THREE PARENTS

YES, this little girl has three parents. The third parent is the family physician.

He was a part of the family even before she was. He has stood beside her since her tiny lungs let loose their first wail of protest against a new and frighteningly large world. He knows her physical history. If there are weaknesses he is aware of them and able to keep a watchful eye on them.

Through her babyhood an affectionate understanding has been growing up between them. When she's ill, this man who comes to help her is not a stranger, but a friend in whom she has complete trust. He knows her little whims and how to get around them. She knows him and is at ease with him. She's a lucky little girl—with this third parent to watch over her, to care for her, to help her through the years that lie ahead.

Your family may not have a regular physician. Perhaps it's because you live in a large city, perhaps it's because you've moved recently and so are out of touch with your former doctor. Whatever the reason, if you do not now have a family doctor, get one. Do it now—do not let the health you enjoy today make you careless in providing this vital safeguard against the sickness tomorrow may bring. Find and become acquainted with the person to whom you can entrust the medical welfare of your family through the years to come.

PARKE, DAVIS & COMPANY, DETROIT, MICH., *The World's Largest Makers of Pharmaceutical and Biological Products*